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## INDOCTRINATIONAL ASPECTS OF MILITARY SERVICE

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[Article by Professor and Doctor of Philosophical Sciences, Lt Gen D. Volkogonov: "The Soviet Armed Forces as an Indoctrinational School"; passages printed in bold-face in source are in italics]

[Text] The main mission which the Soviet Army and Navy are carrying out at the present stage consists in ensuring favorable external conditions for the construction of socialism and communism. The 25th CPSU Congress emphasized the most important social role which is presently being carried out by the Soviet Armed Forces, "to guard the peaceful labor of the Soviet people and be the bulwark of universal peace."<sup>1</sup>

The men of the Army and Navy are carrying out this high mission with particular responsibility. They constantly remember and unswervingly carry out the legacy of V. I. Lenin and the party's instructions to always be ready to deal a crushing rebuff to any aggressor. The significant events in the life of our people, the 26th CPSU Congress and their 63d anniversary have been celebrated by the personnel of the Armed Forces with new achievements in improving military skill and raising combat readiness. The necessity of further strengthening the military might of our motherland is dictated by the presently exacerbated international situation.

At present the world is witness to a new round of military preparations by imperialism and their Beijing supporters. On the wave of unbridled anti-Sovietism and militarism raised by them, the aggressive circles are again endeavoring to achieve military superiority over the forces of real socialism. Under these conditions, the might and combat readiness of the Soviet Armed Forces are that important guarantee and that factor which preserve and maintain peace in the world. In carrying out this task of particular importance, our Army and Navy simultaneously play an enormous role in indoctrinating the younger generation. Here it is important to point out that this role was given to them even at the dawn of the development of Soviet power, immediately after the carrying out of the Great October Socialist Revolution.

### 1. The CPSU on the Role of the Armed Forces in Communist Indoctrination

After the victory of the October Socialist Revolution, the young Soviet state, along with the political, economic and social problems, was also acutely confronted by

indoctrinal problems. The former school, the old educational system, said V. I. Lenin at the Second All-Russian Congress of Internationalist Teachers on 18 April 1919, were never concerned "with making the school an implement for indoctrinating the human individual."<sup>2</sup> Only the new power created broad social opportunities for releasing people from ignorance, prejudices and for indoctrinating new political and moral qualities in them. V. I. Lenin and the Communist Party showed foresight having foreseen that the Army and Navy could play a prominent role in carrying out this historic path.

In setting indoctrinal tasks for the Armed Forces, the party sought, on the one hand, a strengthening of the moral-political potential of the troops and naval forces and, on the other, it broadened the training of literate, ideologically tested cadres for work in the national economy. Simultaneously questions were also resolved of political education, the elimination of illiteracy and acquainting the soldiers with the principles of socialist culture.

*Political indoctrination* occupied a leading place in the activities of the commanders, commissars and political organizations. In March 1919, at the Eighth RKP(b) [Russian Communist Party (Bolshevik)] Congress, the resolution on the military question emphasized the necessity of focusing the efforts of the military department "on bringing the barracks closer to the military school and making it the center not only of purely military training but also general education and political indoctrination."<sup>3</sup>

The congress decisions provided for giving "a proper place in the exercise schedule to the questions of political indoctrination,"<sup>4</sup> and to reinforce this in the new troop regulations. Ideological conditioning of the personnel had a clearly expressed communist focus. The local party organizations were given the duty of conducting indoctrination in the rear units, assigning special workers for this.

Political indoctrination of the men ran parallel with the process of *eradicating illiteracy* which ensured a minimum general educational level. A special order was issued by the RVSR [Republic Revolutionary Military Council], No 1415 of 4 September 1919, on eradicating illiteracy among the Red Army men. One of the summaries stated that in September 1919, the Red Army began operating 457 schools to eradicate illiteracy and 491 general education circles, 4,454 reading huts, 1,761 reading rooms, 113 educational clubs and 318 clubs were opened.<sup>5</sup> Popular textbooks began to be published in mass runs. The questions of the struggle for literacy among the personnel were discussed at the military councils and at major meetings of the command and political personnel. In March 1922, M. V. Frunze emphasized that the specific program of indoctrination and training for men in the Red Army comes down to the complete and "quickest" eradicating of illiteracy and "turning each Red Armyman into a conscious citizen who knows his place in the Soviet republic and his tasks vis-a-vis the world of enemies around us."<sup>6</sup>

As a result of the measures taken around the party's instructions, by 1922, a predominant majority of the Red Army men and Red Navymen had received a primary education. Illiterates by that time were just 8 percent.

Political indoctrination and basic education contributed to the gradual acquainting of the Army and Navy personnel with *socialist culture, polytechnical knowledge and*

*an awareness of revolutionary duty in building a new life.* During the first years of Soviet power, hundreds of thousands of Red Armymen for the first time gained access to libraries and museums and felt the revolutionary ardor of the nascent socialist art. Even during those terrible and complicated times, the party found it necessary and possible to set up cultural institutions in the army. Thus, the Order of the RVSR No 2319 of 20 December 1919 announced the setting up of amateur Red Army theaters and studios and later music schools, houses of culture and garrison libraries.

V. I. Lenin gave great significance to polytechnical education. In preparing materials for the draft RKP(b) Program, in 1919 he pointed to the necessity of polytechnical education for young men and adults.<sup>7</sup> The educational work widely carried out in the Army and Navy helped to create an intellectual potential in society with a clear class focus. The party saw that such a social institution as the army was capable of carrying out important indoctrinational tasks when the young men were undergoing military service in the units and on the ships. The 11th RKP(b) Congress pointed to the role of the army as a special indoctrinational body. "It is essential to pass every young man, including the most advanced, communist youth," pointed out the congress resolution, "through the ranks of the army."<sup>8</sup>

All of this made it possible to then use the demobilized men in the most diverse areas of building a new life. The importance of this source of obtaining trained and loyal cadres was emphasized at the Joint Plenum of the Central Committee and the Central Control Commission of the VKP(b) [All-Union Communist Party (Bolshevik)] held in July 1926: "The Red Army has already become the most important school for training Soviet workers, particularly for the countryside. The role of the demobilized Red Armymen in the work of the rural soviets is continuing to grow and this requires greater attention by the party in this area."<sup>9</sup> The party has always devoted this attention, in widely and thoroughly using the great educational opportunities of the Army and Navy in general state aims.

The methodological basis of the indoctrinational role of Armed Forces of socialism established by V. I. Lenin and the Communist Party has gained profound historical confirmation in real life, in the struggle and heroic accomplishments of our people. During a period of 63 years of Soviet power, many millions of men have passed through the USSR Armed Forces. The Army and Navy, as a specific element of the political superstructure, being included in the general state system of indoctrination, play a great role in the shaping of the new man. In this sense, the contribution of the Soviet Armed Forces to the construction of a communist society is great not only on the level of the armed defense of real socialism but also on the level of broad participation in the training of a man as a soldier, patriot and citizen. This role has been highly regarded by our party. "In speaking about educational work, comrades," said the General Secretary of the CPSU Central Committee, Comrade L. I. Brezhnev, at the 25th Party Congress, "one must not overlook that enormous role which has been played by the Soviet Army in this matter. The young men arrive in the military family without having experience in life. But they return from the army already as men who have undergone schooling in endurance and discipline and having obtained technical and professional knowledge as well as political training."<sup>10</sup>

## 2. Factors Shaping the Personality of a Soviet Soldier

During Army and Navy service, the process of indoctrinating the individual neither begins nor ends. But this segment of a life occurs precisely during that period when the qualities of civil awareness, responsibility, duty, courage, feelings of patriotism and internationalism and rejection of the enemies of socialism are being formed particularly intensively and one's position in life is being established. All these properties are manifested and crystallized under the effect of various factors.

*The most important among them is the general sociological factor.* This consists in the social milieu of society, the Soviet way of life and the system of spiritual values of socialism. Its formative effect is of crucial significance, as it reflects such major victories of ours as the elimination of private ownership of the means of production and the elimination of the exploitation of man by man and the establishing for the first time in history of new relations based upon social justice and universal equality. Changes in social life have led to a drawing together of the working class, the peasantry and the intelligentsia and to a gradual overcoming of the differences between mental and physical labor. This has been expressed in the growing sociopolitical unity of the workers and in the international fraternity of the Soviet peoples. The merging of classes and social groups under the conditions of military service is particularly expressed in the fact that in a military collective at present it would be hard to distinguish a worker, a peasant or a representative of the intelligentsia in terms of educational level, culture or social maturity. The strengthening of social uniformity has been accompanied by a further strengthening of the international unity of the soldiers of more than 100 nationalities serving in the units and on the ships. Each of them with all his heart understands that he is primarily a soviet man and then a Russian, a Ukrainian, Belorussian, Uzbek or Kazakh. The personnel of the Soviet Armed Forces take a most active part in the sociopolitical life of the nation.

The spiritual aspect of the general sociological factor which has a determining effect on the development of the individual is expressed in the unchallenged dominance in our society of Marxist-Leninist ideology which expresses the fundamental interests of all workers. The "stages" of spiritual development in the Soviet people and military can be seen in the growth of communist conviction, education and culture and in the diversity of reasonable interests and needs. Suffice it to say that at present more than 90 percent of the officers are communists and Komsomol members and more than one-half of them have a higher military and special military education. As a whole for the Armed Forces, almost 100 percent of the personnel has at least an eighth-grade education while the share of servicemen with a higher and secondary education is around 80 percent.<sup>11</sup> The social conditions which offer broad opportunities for the development of the individual in our society are fully apparent in the Army and Navy. The main thing consists in the ability to use them in the process of service developing in the men a class maturity, a collectivist morality, patriotism and internationalism and polytechnical training. Developed socialism gives rise to highly developed people in political, social, intellectual and moral terms.

Another specific factor influencing the formation of the personality of a soldier is derived from the first. This is the *particular features of Army and Navy reality*

inherent to the socialist armed forces. These concern primarily the methods of activities in the military organism, the order, rules and standards of military life. During the postwar years, service, the system of instruction and indoctrination, everyday life and the entire internal form of Army and Navy service have undergone substantial changes under the influence of the military technical revolution. The main feature caused by this has been the vitally important necessity of keeping our troops and navy in a state of high combat readiness. This is a factor of enormous social significance putting an indelible imprint on the entire order, rhythm and traits of modern army life and its spiritual atmosphere. Under conditions where the imperialist and Maoist circles are creating tension in the international situation, forcing military preparations and endeavoring to deal with us in the language of force, a profound awareness of the political and social responsibility resting on the Soviet military in every possible way helps to develop their ideological maturity, moral conviction and high civil awareness.

The basic path of moral and spiritual development of the Soviet military lies through an organic combination of political training with military labor the main purpose of which is to ensure the security of the socialist fatherland. The enormous indoctrinational opportunities of military service are determined by this high social importance. Not only the content of military service, that is, the mastering of a specialty, the carrying out of a combat exercise, the maintaining of equipment in a state of combat readiness and so forth, is of moral weight. Its very process is a source of many spiritual and moral values such as: tenacity, efficiency, restraint, initiative, self-discipline and so forth. It develops and reinforces such qualities as combat friendship, mutual aid, collectivism and responsibility and courage, tenacity and self-sacrifice are instilled.

In serving in the Army and Navy the young men become accustomed to operating the most complex equipment, they gain new knowledge and skills and master a whole series of professions and specialties also needed in the national economy.

It would be hard to overestimate the ideological tempering which the officers, soldiers and sergeants acquire in the process of service. In the Army and Navy an ordered system of ideological-political indoctrination has come into being. In the units and on the ships, in 2 or 3 years a man undergoes a course of political education including the principles of Marxist-Leninist theory, the urgent questions of CPSU domestic and foreign policy, the problems of Soviet military organizational development, indoctrination and training. Political training, as a component part of the general system of ideological indoctrination, develops in the soldier high political qualities such as loyalty to the motherland, to the party and to the people and a patriotic attitude toward the solving of state problems and tasks, and contributes to an awareness of international duty.

Combat exercises, sea cruises, flights under difficult conditions, intense marches and rocket launchings are remarkable schooling in developing and reinforcing high moral-combat qualities. Field exercises make it possible not only to develop and reinforce the necessary moral-combat qualities but also to detect weaknesses inherent to individual men such as timidity, indecisiveness, a lack of restraint and so forth. With good reason exercises in the field, at a tank driving range, at a testing range or at sea are called by the men a "soldier" or "sailor" university where many spiritual and physical facets of the personality are shaped. In the

process of combat training and field skills, such collectivist traits of the Soviet soldier are intensely shaped and developed such as military friendship, comradeship and mutual support. This is aided also by the collective weapons and the joint efforts in carrying out various missions.

With its inherent strict order, particular rhythms, pace and control of work and with the functional methods of modern combat systems, the very order of army and navy life has a substantial impact on the serviceman. As a result of the introduction of new weapons and equipment, the spatial scope of the activities of the army and navy subunits has grown broader. Long and superlong flights by rocket-carrying aircraft have become ordinary events, and for submarine troops the extended traveling under water (ice), in the open ocean, far from base. Missile garrisons have arisen with their specific way of life and customs. All of this which has been incorporated into the social milieu in the serviceman's development has a constant influence on the processes of developing his political, moral and physical qualities.

At the same time, in the awareness of a young man inducted into the Armed Forces, military service is closely tied to the glory of the immortal feats carried out by Soviet people in the battles against the enemies of our motherland. Tales about them by the war veterans evoke in the young soldiers a desire to imitate the heroes in their daily activities. In a majority of instances the service of a serviceman starts precisely by visiting the rooms of military glory and the museums which tell about the heroic past of the Army and Navy, the unit and the ship. Our heroic traditions are rightly considered a weapon constantly ready for use. Familiarization with them leaves a profound trace in the awareness of the men who have put on the uniform and impels them to be worthy heirs and continuers of the military glory of their fathers and grandfathers.

The indoctrinal opportunities of military service are widely realized in practice by the commanders, the political bodies and the party organizations. In recent years the Army and Navy have done a great deal to turn the party organizations of the units and ships, as is demanded by the decree of the CPSU Central Committee of 26 April 1979, into a center of daily political indoctrination. Precisely the communists are the pioneers of the measures aimed at uniting the military collectives, raising the conscious activities of the men, improving the level of service and everyday life and bettering individual indoctrination.

In examining the factors which shape a personality, one cannot help but point out such a very subjective but also very important one as *the ability of the individual himself for self-education and self-indoctrination*. Of course, the main indoctrinators are the social milieu, the specific conditions of Army and Navy life and the entire range of measures undertaken by the party in forming the new man. However, without efforts by the person being indoctrinated himself, it is very difficult to achieve positive results.

Scientific literature has preserved for coming generations many vivid examples of the ability of people to "organize" their internal spiritual world, to get rid of shortcomings and to consciously set for themselves tasks of intellectual and moral development. V. E. Dzerzhinskiy, V. V. Kuybyshev, M. V. Frunze, M. N. Tukhachevskiy, A. S. Makarenko and many other remarkable people have left us many interesting, original ideas about self-indoctrination, self-discipline, their possibilities and

the ways of development. V. I. Lenin, being brilliantly indoctrinated in a spirit of the communist ideals of man, very highly regarded organization, neatness and the ability to control one's behavior. All these qualities were inherent to the great leader. V. V. Chicherin recalled that "wherever he was, all his work, his entire day were always strictly systematically allocated. The same strict system prevailed in his house, in his papers, and generally in all his private life."<sup>12</sup> True self-indoctrination is the ability to "step over" dubious enticements, to force oneself at the crucial moment to take a courageous step, to honestly admit one's mistake and to struggle against weakness. The task of the indoctrinators and of the party and Komsomol organizations is to arouse in a person a desire to become better, purer and more moral. This stems fully from the demands of the party which has prescribed that all sectors of our society be indoctrinated in a spirit of "communistically, aware and highly educated people capable both of physical and mental labor....".

The presence of formative factors which operate in a socialist society and its army poses the question of controlling them. V. I. Lenin emphasized that for the party "the task of convincing the masses of people can never be completely escaped. On the contrary it will always be among the important tasks of control."<sup>14</sup> In light of Lenin's methodological instructions, it can be said that the essence of control over the indoctrination of the Soviet military consists in the optimum use of the formative factors in accord with the patterns of socialism. The process of controlling indoctrination is effective when the control functions are fully carried out on all levels and in all units. The 25th CPSU Congress reemphasized the importance that "each person, in having the necessary rights for this and bearing full responsibility within their limits, be concerned with his work. This elementary rule of life is at the same time the underlying basis of the science and practice of control."<sup>15</sup> Unfortunately it still happens that one or another question is agreed upon, clarified, discussed, put off, passed on and ultimately not resolved. The party must fight decisively against such formalism.

### 3. Strengthening the Indoctrinal Role of the Soviet Armed Forces

The successes in the creative labor of the Soviet people and in the defense of their revolutionary victories to an enormous degree depend upon the degree of maturity in social and individual conscience. For precisely this reason V. I. Lenin emphasized that "the development of the conscience of the masses remains, as always, the basis and main content of all our work."<sup>16</sup> The party in subsequent years adopted a number of important decrees on the experience of an integrated settlement to questions of ideological indoctrination, on further improving lecture propaganda and political agitation, on directing the mass information media and certain others. Among these a special place is held by the Decree of the CPSU Central Committee of 26 April 1979 "On Further Improving Ideological and Political Indoctrination." This important party document reaffirms the great role of the Soviet Armed Forces in indoctrinating the younger generation, and sets tasks of further improving it. "The Ministry of Defense and the Main Political Directorate of the Soviet Army and Navy," states the decree, "are to implement measures aimed at further strengthening the indoctrinal role of the Soviet Armed Forces."<sup>17</sup> The Soviet military, the document emphasizes, should be profoundly aware of their duty to ensure the peaceful labor of the Soviet people and to defend the cause of peace and socialism. These instructions of the party Central Committee have been perceived in the Army and Navy as a complete program of actions in the area of indoctrination. At the conference

held in June 1980 for the command and political leadership of the Army and Navy, the course of carrying out the decree was discussed. An analysis of indoctrinal work conducted in the units and on the ships showed that these activities are being improved in several areas.

In the first place, particular significance has been given to *raising the scientific level in organizing indoctrination* and this is expressed primarily in the able leadership, the completeness of decisions and the soundness of measures taken in each military collective. At present, of particular urgency is Lenin's demand that "science for us must not remain a dead letter or a fashionable phrase...science must in fact become flesh and blood and be turned into a component element of life completely and really."<sup>18</sup> The entire indoctrinal process according to the party's demands should have a high end result of raising the awareness of people, their responsibility and social activeness.

Secondly, the commanders, political bodies, the party and Komsomol organizations have ensured *high professionalism in indoctrinal work* and its close tie to the problems being solved. V. I. Lenin in his speeches and works repeatedly stressed that one of the most important ways for "refashioning" the conscience of people and developing communist awareness in them is their involvement in revolutionary practice and in the process of creating a new society. The 25th Party Congress pointed out that concrete deeds are the measure of success in the political indoctrination of the masses,<sup>19</sup> for communist ideological loyalty is a fusion of convictions, knowledge and practical action. The professionalism of indoctrinal work in the Army and Navy is apparent in the greater combat readiness, in the growth of military skill and in the further strengthening of discipline. The role of indoctrination here consists in making certain that each serviceman is aware of the importance of his personal involvement in carrying out that great task which confronts the Armed Forces.

Thirdly, in carrying out the demands of the CPSU Central Committee on improving ideological and political indoctrination, the commanders and political bodies *develop an offensive nature to the entire indoctrination process*. Offensiveness in indoctrinal work means principled irreconcilability for shortcomings, vestiges of the past, cases of amorality and any manifestations of bourgeois influence. This is a decisive support for all that is new and advanced and a constant struggle against the obsolete.

In carrying out the ideological and political indoctrination of the personnel, the commanders and political bodies consider not only the inner formulative factors but also the possibility of external effect, sometimes negative and hostile ones. As for them, work is effective when the commanders, the political bodies and the party organizations skillfully and directly unmask fabrications, rumors and any hostile insinuations and at the same time in a vivid, understandable and convincing manner propagandize the successes of socialist construction and show a militant class intolerance of bourgeois ideology and the various antipodes of communist morality, namely, drunkenness, dissoluteness and disorganization. The combating of bourgeois, revisionistic and Maoist ideology which is being carried out systematically at the same time is a school for the class tempering of the Soviet military.

Experience shows that where the military councils, the commanders, political bodies and party organizations pay permanent attention to the questions of the ideological

tempering of the cadres, positive results are present in all areas of military activities. Of great significance is the participation of senior chiefs in the indoctrination of the personnel and the involvement of party and soviet workers and prominent figures in science, literature and art in this work. The communist ideological loyalty of a person is honed in constant contact with people, it is forged in the overcoming of difficulties and tested in the complex situations of military service. The approval by the CPSU Central Committee of conducting unified political days has necessitated the establishing of a clearer order, of regular speeches by all ranks of leaders directly to the personnel of the units and ships on political questions, problems of ideological struggle and military indoctrination. The remarkable Leninist tradition of constant contact between the leaders and the masses should be supported and developed in every possible way.

The growth of education and culture, the broadening of the range of interests of young people and their needs and the sometimes insufficient tempering in life and labor force the indoctrinators to consider these and other particular features of the persons beginning military service. The well-known shifts in the "human material" require an improvement in the forms and methods of the indoctrinational effect, a rise in the quality of ideological measures and a stronger tie between them and life.

Concern for the constant growth of ideological maturity in each man as well as many other questions cannot be successfully solved without the broad use of the entire spectrum of ideological means available to us. These are not only books, magazines, radio, television, movies and other powerful "tools" of our ideological influence on the conscience of people but also numerous forms and methods, if it can be so put, of "local" significance such as talks, personal example, explanation, persuasion and the demonstrating of a vivid, social, political fact. When political indoctrination is closely tied to military training and the entire arsenal of ideological influence is ably used, the fruits of this work are starkly apparent in the greater consciousness of the personnel and in the strengthening of discipline and organization.

In the preparatory period for the 26th Party Congress and the celebrating of the 63d anniversary of the Soviet Armed Forces the indoctrinational efforts of the commanders, the political bodies and party organizations in the Army and Navy have been significantly strengthened. Positive experience has been acquired in shaping armed defenders who are ideologically loyal to the socialist fatherland. This experience has been widespread. But the demands on the level of indoctrinational work are constantly rising. This is caused both by the complexity of the contemporary international situation as well as by the greatness of the creative tasks within the nation. The integrated use of the rich opportunities for indoctrinating the soldier-citizen, the patriot and the internationalist is an important party duty of all commanders, political workers and engineers. This is the basis for raising the moral-political potential of our motherland which plays an enormous role both in building a communist society and in its defense.

#### FOOTNOTES

1. "Materialy XXV S"yezda KPSS" [Materials of the 25th CPSU Congress], Moscow, Politizdat, 1976, p 83.

2. V. I. Lenin, PSS [Complete Collected Works], Vol 37, p 431.
3. "KPSS v Rezolyutsiyakh i Resheniyakh S"yezdov, Konferentsiy i Plenumov TsK" [The CPSU in Resolutions and Decisions of Congresses, Conferences and Central Committee Plenums], Part I, Moscow, Politizdat, 1954, p 433.
4. Ibid., p 440.
5. See Yu. Deryugin, "Isthodnaya Tochka Vzroslosti" [The Starting Point of Maturity], Moscow, Znaniye, 1978, p 16.
6. M. V. Frunze, "Izbrannyye Proizvedeniya" [Selected Works], Voyenizdat, 1951, p 207.
7. See V. I. Lenin, PSS, Vol 38, p 409.
8. "KPSS v Rezolyusiyakh...," Part I, p 649.
9. Ibid., Part II, p 276.
10. "Materialy XXV S"yezda KPSS," pp 75-76.
11. D. F. Ustinov, "Izbrannyye Rechi i Stat'i" [Selected Speeches and Articles], Moscow, Politizdat, 1979, p 501.
12. "Vospominaniya o Lenine" [Remembrances of Lenin], Moscow, Politizdat, 1957, Vol 2, p 812.
13. "Programma KPSS" [CPSU Program], Moscow, Politizdat, 1975, p 122.
14. V. I. Lenin, PSS, Vol 36, p 127.
15. "Materialy XXV S"yezda KPSS," p 61.
16. V. I. Lenin, PSS, Vol 13, p 376.
17. "O Dal'neyshem Uluchshenii Ideologicheskoy, Politiko-Vospitatel'noy Raboty" [On a Further Improvement in Ideological and Political Indoctrination], Moscow, Politizdat, 1979, p 14.
18. V. I. Lenin, PSS, Vol 45, p 391.
19. See "Materialy XXV S"yezda KPSS," p 76.

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## WARTIME OPERATIONS: GENERAL STAFF ORGANIZATION AND WORK METHODS

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[Article published under the heading "Soviet Military Art in the Great Patriotic War and the Postwar Period" by Prof, Col Gen (Ret) N. Lomov and Candidate of Historical Sciences, Col V. Golubovich: "On the Organization and Work Methods of the General Staff"; passages in boldface in source are in italics]

[Text] Some 35 years separate us from the day of victory in the Great Patriotic War. But at present, when the Soviet Armed Forces have undergone fundamental changes under the influence of military and technical progress, the rich experience acquired by them during the war years in many areas of military affairs remains a valuable source for study and use in the practice of the operational training of the troops. Of great interest are the organization and work methods in the area of strategic planning and the leadership of the Armed Forces on the level of the Supreme High Command and the fronts and fleets, where the General Staff was the basic operational working body of HqSHC. The aim of the present article is to briefly generalize certain experience of its activities.

### Basic Areas of Work

According to the draft of the 1937 Regulation Governing the RKKA [Worker-Peasant Red Army] Field Headquarters, the RKKA General Staff is "the highest body of the High Command in working out all questions of the operational-strategic leadership of the troops in the ground and sea theaters and in the air. Through the RKKA General Staff, the High Command prepares, assigns and monitors the execution of operational-strategic tasks for the fronts, fleets and individual armies."<sup>1</sup>

There were a number of conditions which determined the successful activities of the General Staff. One of them was the conformity of the provisions of military doctrine to the nature and demands of war. Here the organizational structure, the content, the forms and methods of work of the General Staff in peacetime should be stable and flexible in order with the outset of hostilities it could carry out its tasks without a fundamental organizational change in the system.

Prior to the war the General Staff was given responsibility for the organization of the Armed Forces, for maintaining them in constant and high combat readiness, as well as for working out and conducting measures to prepare the nation for armed defense along with the other state bodies.

The Great Patriotic War significantly broadened the scope of activities by the General Staff and posed new, more complex tasks where it became the main working body of superior military leadership of the nation in carrying them out. Through it HqSHC exercised control over the combat actions of the fronts and the fleets and the organization of their all-round support. The first to be solved were the questions of stabilizing the strategic front, the mobilizing of the troops and the shifting of new operational-strategic reserves from the interior of the nation to the operational army.

In wartime the basic functional duties of the General Staff were: the collection and analysis of situational data on the fronts and the preparation of conclusions and proposals for HqSHC; the elaboration of plans for using the Armed Forces in the campaigns and strategic operations; the creation of the necessary groupings and the organizing of their cooperation; the issuing of the decisions, orders and directives of the Supreme High Command to the troops, control over their fulfillment and over the state, supply and combat capability of the troops; leadership and the providing of aid to the command of the fronts and fleets in preparing operations and controlling their execution; the training of strategic reserves and carrying out their regroupings; the organization of military information in the press and by radio; maintaining contacts with the command of the Allies in the anti-Hitler coalition and the preparing of materials for discussion at meetings with them (Tehran and Yalta).

An inseparable part of the work done by the General Staff was the organizing and maintaining of reliable and uninterrupted communications within the system of HqSHC --General Staff--fronts, fleets and armies,<sup>2</sup> as well as control over the manning of the operational army and improving the organizational structure of the units, formations and field forces considering the experience of the battles and operations (for example, restoring a corps organization to the Ground Forces, creating artillery breakthrough formations, tank and air armies and so forth).

During the war years the General Staff organized and directed the operational training of the command personnel and staffs of the nonfighting fronts. The operations headquarters for each instruction period worked out a corresponding subject which was issued by directives on operational training. In them the questions of the training of commanders, staffs and troops were differentiated by purpose. For example, for the winter period of 1943-1944, the Far Eastern Front was to include into the plan the working through of a number of additional questions on conducting successive operations and diversify the operational background of the exercises and military gains. It was recommended that systematic staff training be organized and that the front participate in the operational training measures to be conducted under the plans of the Pacific Fleet and the Amur Flotilla.<sup>3</sup>

The General Staff was also entrusted with organizing the study and generalization of wartime experience, the informing of the troops of this and the elaborating of recommendations, instructions and regulations on various questions of military affairs. In January 1942, the directive of HqSHC was worked out and sent out to the troops on organizing the breakthrough of enemy defensive lines and an artillery offensive. In the autumn of the same year, the first "Sbornik Materialov po Izucheniyu Opyta Voyny" [Collection of Materials on Studying the Experience of the War] was published and subsequently issues of the INFORMATSIONNYY BYULETEN' [Informational Bulletin] and "Sbornik Takticheskikh Primerov" [Collection of Tactical

Examples] were also published. In 1944 alone, various publications running to around 600,000 copies were put out on these questions.

The generals and officers of the General Staff were also used for working in the troops for the purpose of providing help in studying combat experience on the spot as well as for instructing staff officers on the keeping of military history documents such as a combat log, histories of the units and reports.

As a whole, regardless of the enormous range of tasks carried out and the complexity of the situation in the operational army, particularly at the outset of the war, the general staff effectively prepared and carried out the decisions of HqSHC. It must be pointed out that this was largely aided by the preparatory work done in peacetime together with the bodies of the people's commissariats of defense, railroads, communications, with the USSR Gosplan and others, as well as the constant contact of the central workers with the troops. "The activities of Headquarters and consequently the General Staff," wrote S. M. Shtemenko, "was of a very intense nature and could not be contained within four walls. Here one always felt the pulse of an operational army. We were connected to it not only by the delicate thread of a telegraph or telephone wire. We did not break our vital ties and personal contact with the troops, their staffs and the command of the fronts."<sup>4</sup>

Thus, even a brief description of the basic tasks carried out by the General Staff shows how diverse, complex and important were its activities during the war years. However, with all its diversity this work can be reduced to a number of basic areas: strategic and operational-strategic, mobilization-organizational, material-technical, military intelligence and military-scientific. The structure, the nature of organization and the methods of work were determined in accord with these.

#### Organizational Work Principles

The structure of the General Staff and its functional duties did not come about all at once. Renamed the RKKA General Staff in 1935 from the RKKA Staff, it had the following sections: operations, combat training, military lines of communications, organizational, material-planning, fuel, military-topographic service, naval and others.<sup>5</sup> In 1939, the sections were changed into directorates.

In the course of daily work, in studying and utilizing previous experience, including the combat operations of the Red Army at Lake Khasan and the Khalkhin Gol River and in the Soviet-Finnish War and in the process of studying the problems of strategy and higher military art, definite views were formed on the role and content of the activities of the General Staff, its internal mechanism was created and the organizational principles were worked out for its activities. The main principles were: *carrying out party policy in military strategy and the centralizing in the General Staff of decisions for not only strategic and operational questions but also basic organizational ones related to the composition, size and structure of the Armed Forces the restoring of losses in the personnel of the operational army and so forth.*

However, the second principle was violated at the very outset of the war. By a decree of the USSR State Defense Committee [GKO] of 28 July 1941, the Main Directorate for the Formation and Manning of Red Army Troops was created in the People's

Commissariat of Defense [NKO], and all the General Staff bodies in charge of these questions were turned over to the directorate.<sup>6</sup> The improving of the structure of the central military system led to definite costs involved with the loss of time in seeking out new methods and forms of work and on developing cooperation between the structures and the executors. The situation which had developed at that time demanded not an organizational change but rather the concentrating of efforts on solving the problems of supplying the strategic front with human resources and materiel and the stabilizing of it.

Some 9 months later the organizational headquarters were returned to the General Staff. The TOE organizational directorate was left with the Main Directorate for the forming and manning of the Red Army troops. This led to parallelism in the work. Further practice showed that one body, the General Staff, should be concerned with organizational questions. For this reason as of May 1943, the main organizational directorate was set up in it.

*The principle of the specialization of the directorates, sections (sectors), generals and officers.* From the example of the leading operational directorate in the General Staff, this principle consisted in the following. A sector was assigned to each front consisting of a chief, a deputy and five-ten operator officers (one or two persons for a separate or air army).<sup>7</sup> The number of sectors changed depending upon the scope of armed combat and the nature of the combat operations: some were abolished while others were created in parallel with the breaking up or formation of the front directorates [headquarters]. For example, in the autumn of 1941, there were eight of them on the Soviet-German Front, 10 in May 1942, 14 in November 1942, 13 by the summer of 1943, and 26 from the autumn of 1943 to the end of the war, including 2 sectors for coordinating combat operations with the Polish and Romanian troops.<sup>8</sup>

A sector constantly collected detailed information on the situation, the state, the combat capabilities, the supply of the front and so forth. It exercised control over the prompt issuing of directives and orders of HQSMC and the General Staff to the front, it received and analyzed operations summaries, final battle reports and other information from the front, it worked out proposals on using the troops of a formation for reporting to the leadership of the operations directorate, it kept the maps for the operational situation for each front and the strategic operations map, it coordinated the questions relating to communications and cooperation with adjacent fronts (aviation or the fleet) and coordinated the work of the other directorates and sectors to ensure the carrying out of the combat missions by the field force. Such specialization and assignment of a sector to one or several fronts ensured the most specific contact with it and made it possible to seek out opportunities to quickly influence the course of combat operations.

*The continuity of work by the General Staff personnel.* In order to ensure around-the-clock work and above all direct control, a number of measures had to be carried out relating to the placement of the forces in the directorates and sections, the establishing of shift work for the operator officers in the sectors and the regulating of the work. One of the conditions for this regulating was to ensure the collecting and processing of the necessary situational information by a stipulated time for reports to the Supreme Commander-in-Chief and these were made, as a rule, three times a day. The preparation of materials for them determined the working hours

of the General Staff. The workday ended after the elaboration of the final battle report which was drawn up from the final battle reports of the fronts over the previous 24 hours.

Regardless of the extreme strain, the General Staff and the related central directorates of the NKO from 1942 worked confidently, precisely and in harmony in accord with the high demands of the Supreme High Command in organizing armed combat on the Soviet German Front.

*The stability of the basic officer personnel* in all levels of the General Staff system. As was pointed out by M. V. Frunze, "the actual opportunity should be created of turning the 'brain' of the army, its General Staff, into the military theoretical staff of the proletarian state."<sup>9</sup> From the experience of the war, stability of its personnel was the first condition for the achieving and maintaining of this high state. A highly skilled collective was set up in which the major elements of the inner mechanism operated smoothly, efficiently and with high responsibility.

Personnel stability contributed to the development and improvement of the officers' and generals' skills of coordinated work in a collective and made it possible to apply new work methods and procedures which increased labor efficiency both of the individual worker and of the sectors, sections and directorates as a whole. It strengthened the confidence of leadership, it raised the efficiency of subordinates and strengthened the degree of their mutual confidence, thus improving the quality of work.

In speaking about the stability of the basic personnel on the General Staff as a system, one cannot help but mention the violation of this principle in 1941. In June-July, in shifting from peacetime to working under wartime conditions at the General Staff, 393 men of command and volunteer personnel were reassigned and newly appointed, and on 18 August, 449 persons were again reassigned and reappointed.<sup>10</sup> One scarcely needs reminding of the inadvisability of such a mass reassigning of personnel. Enormous efforts were required on the part of the command and party-political system of the General Staff to quickly nullify the negative consequences of such a reassignment of generals and officers.

#### On the Work Methods

Depending upon the situation, each type of work performed or in terms of the nature of the task to be carried out had its inherent, specific methods at the General Staff. These were not standard and fixed but rather derived from the creative approach of the leaders and executors. The general patterns were: the conformity of the methods to the structure of the personnel, of the structure to the tasks and of the tasks to the situation; a knowledge of functional duties and the elaborated provisions and procedures by all levels and by all executors; the able application of acquired experience in moving from some working conditions to others. The contents of the tasks to be carried out, their diversity and conditions of fulfillment were the main factors determining the organization and methods of work.

The main efforts of the General Staff and the central personnel of the NKO were aimed at solving the basic questions directly related to the preparation and conduct

of combat operations. Due to this, a typical task was the constant collecting of data on the situation at the fronts, analysis of them and reporting to HqSHC as well as their use for information (with a varying degree of detail) within the General Staff, in the central directorates, in the press and radio and for the Allied military missions.

The sources for obtaining the data varied. They included: summaries (operational and intelligence), the final combat reports from the fronts submitted daily in accord with the report priority logs as well as talks over communications lines between the leadership of the General Staff, its representatives in the troops and the officers of the sectors from the operations directorate with the staffs of the fronts and so forth.

The integrated use of all sources of information made it possible for the Soviet Supreme High Command to receive reliable information on the situation on the fronts, to discover the plans of the Nazi command and to take measures which often anticipated enemy operations, reducing or completely paralyzing their effect. This was the case, for example, with the intentional going over to the strategic offensive on the Kursk Salient in 1943. After strategic initiative had moved to the Soviet Supreme High Command, the method of anticipating the enemy by a prompt maneuver (for example, in preparing the Vistula-Oder Operation) became a characteristic distinguishing feature in planning operations by the General Staff.

A very valuable source of information was the reports from the officers who were representatives of the General Staff. These were made either upon their own initiative or upon assignment of the General Staff leadership and, as a rule, involved the most acute and urgent questions.

The creation at the outset of the war of a group of officers who were representatives of the General Staff became a new phenomenon and a new method of contact for the higher military leadership directly with the troops.<sup>11</sup> Their duties included: control over the carrying out of combat missions, instructions and orders of superior staffs by the field forces and formations; checking the position and actual state of troops and their supply; help in leadership of combat operations; reporting to the General Staff on situational data and their own proposals on the combat use of the troops and logistical support. Since they reported only what they saw directly, their information excelled in reliability.

A central place in the work of the General Staff was held by the questions of planning and preparing the strategic operations by the groups of fronts and control over their course. The basis of the operation was the plan worked out at HqSHC or the General Staff with the involvement of the Supreme Commander-in-Chief, the chief of the General Staff, their deputies and the chief of the operations directorate. Here they prepared an overall, undetailed sketch of the plan for the future strategic operation considering the situation which would exist by that time on the fronts and a prediction of its further development. The plan discussed and approved at HqSHC became the basis for the subsequent detailed elaboration of the operations plan. In a number of instances, in the stage of the preliminary discussion of the plan of the operation, the commanders of the fronts to be involved in it participated, but more often they were involved in the work of planning after the basic decisions had already been taken by HqSHC.

After the approval of a decision by HqSHC, the General Staff was responsible for the following: working out the operation plan, the directive and orders to the fronts and central directorates, the organizing of cooperation, including with the partisan formations, and the carrying out of measures to create the necessary grouping and its complete support, as well as control over the course of the preparation of the troops and the staffs for combat.

The procedure for the elaboration of the operations plans and the preparatory measures by the fronts was determined by the General Staff in terms of the situational conditions and the available time for the preparations. There were two methods in the work of the General Staff and the front field forces: parallel and successive. In the first instance, the command of the fronts and the central directorates received from the General Staff an operational guideline on the situation and instructions on preparing views on further combat operations and on the procedure for stockpiling ammunition, fuel and weapons, the bringing of the fronts up to manning levels and the possible times of readiness. Simultaneously the General Staff worked out the targets for subsequent operations and the procedure of troop cooperation in them and organized and carried out interfront regroupings of resources and the regroupings of strategic reserves. The operations plans submitted by the commanders of the fronts were reviewed by the General Staff and HqSHC and submitted for approval to the Supreme Commander-in-Chief. Such work was carried out in comparatively short times and provided extensive initiative for the commanders of the field forces and their staffs.

In the second instance, the fronts received the directive of HqSHC on preparing and conducting the operation with the specific determining of its objectives, tasks, the composition of the troops, the particular tasks for the tank armies and the procedure for using them, with the establishing of the nature of cooperation with adjacent fronts (fleets) and the dates for being ready to commence the operation and the times for the sequential fulfillment of the posed tasks. Here the staffs began to work out the operation plans sequentially, from the superior levels to the inferior ones.

Among the particular features in the work done by the General Staff, one must mention the daily repetition of work processes in the activities of its leadership and officers. For example, the workday of the operations directorate (like, incidentally, a majority of the others) was organized as follows: 0400-0900 hours--clarification of the situation on the fronts during the night, preparation of the morning report by the chiefs of the sectors and sections to the command of the operations directorate, and the report of the latter to the deputy chief of the General Staff<sup>12</sup>; 0900-1000 hours--reports; 1000-1100 hours--report (by telephone) to the Supreme Commander-in-Chief; 1100-1300 hours--internal work in the sectors and sections; 1300-1400 hours--lunch break; 1400-1600 hours--preparation of materials on reports from fronts and talks over high-frequency communications and other sources (the group of the representative of HqSHC and so forth); 1600-1700 hours--report (by telephone) to the Supreme Commander-in-Chief; 1700-2100 hours--carrying out of instructions of the Supreme Commander-in-Chief on the daily report and preparation of materials for the evening report; 2100-0300 hours of the following day--report to the Supreme Commander-in-Chief directly at Headquarters, the elaboration of materials and the preparation of the final report to HqSHC, the plotting of the situation on maps from reports and summaries of the fronts for the Supreme

Commander-in-Chief, the deputy chief of the General Staff and the command of the operation directorate and for meeting the needs of the sectors.

Of course, there were certain deviations from the given daily regimen, particularly in the directorates which were not so closely linked with the fronts as the operations one was, but basically this was a standard regimen regulating the work of the entire General Staff.

The General Staff devoted a great deal of attention to solving mobilization organizational problems. This can be seen from the correspondence with the central and main directorates of the NKO, with the fronts, armies and individual formations. The diversity of functions and methods of work in this area can be seen from the fact that in 1941 alone the General Staff prepared around 20 major GKO decrees, including on the mobilization of the draft quota, the reduction in the number of rear units, facilities and institutions of the Red Army for organizing 120 rifle divisions and 17 cavalry divisions, 50 separate rifle brigades and many tank brigades and separate tank battalions as well as for the current replacement of troops in the front and the replacing of units put into the reserve.<sup>13</sup> This was the first time that mobilization-organizational measures of such a gigantic scale were carried out in the practice of Soviet military organizational development.

During the war years one of the important areas of work for the General Staff was ensuring the security of the Far East and the activities of the interior military districts. For example, in addition to the daily submission of intelligence summaries, data on the course of construction and the degree of readiness of the defensive lines to the operations directorate of the General Staff, the chiefs of staff of the Far Eastern and Transbaykal fronts as of 29 October 1941 were given a direct wire link-up with Moscow, respectively, from 1400 through 1630 hours and from 1330 to 1830 hours daily. For increasing the efficiency of work, the staff of the Far Eastern sector of the operations directorate of the General Staff was moved into the interior of the nation, and from 25 October 1941, all correspondence of the military district staffs on operational questions was sent to Moscow and for questions of supply, organization and weapons, to Kuybyshev.<sup>14</sup>

The check on execution by staffs of directives, instructions and plans for the preparation and conduct of operations was a particularly important means of ensuring high-quality work by the General Staff. In this regard it is essential to stress the constant and great exactingness on the organization of control by the Supreme Commander-in-Chief and the leadership of the General Staff. Thus, the experience of the Great Patriotic War shows that the fruitful and successful activities of the General Staff were determined primarily by the complete preparedness and high skills of its personnel; by the most efficient organizational structure of the directorates, sectors and sections; by the use of efficient methods and well-organized party political work and by the presence of reliable, uninterrupted contact with the operational army.

The war's experience has shown the necessity of organizing the work and maintaining the structure of the system of the General Staff in the same manner in peacetime so that with the outbreak of war there is no necessity to resort to a fundamental re-organization. An indispensable condition for the successful activities of the General Staff was the close tie between it (both in peacetime and wartime) with the

staffs of the military districts and fleets, the staffs of the fronts as well as with the central directorates.

The experience of the General Staff during the past war has been far from fully studied. Its study should be creatively continued. As was emphasized by the USSR Minister of Defense Mar SU D. F. Ustinov at the 18th General Staff Party Conference, "the party gives primary significance to improving the style and methods of leadership on the basis of Leninist management principles."<sup>15</sup>

#### FOOTNOTES

1. TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 15-A, inv. 452, file 69, sheet 378.
2. A significant share of the calls between these levels was carried out over high-frequency communications. The contents of these calls in planning combat operations and in the course of them were not recorded and for this reason have been actually lost to history.
3. TsAMO, folio 48-A, inv. 2, file 29, sheets 401-405.
4. S. M. Shtemenko, "General'nyy Shtab v Gody Voyny" [The General Staff in the War Years], Book 1, Voyenizdat, 1975, p 175.
5. TsAMO, folio 7-A, inv. 913, file 1, sheet 156.
6. Ibid., inv. 587, file 1, sheet 168.
7. Ibid., inv. 73, file 4, sheet 91.
8. Ibid., inv. 587, file 2, sheets 53-54; inv. 68, file 1, sheets 1-4, 49-51; file 2, sheets 71-82, 265-270, 310-311; inv. 73, file 4, sheets 59-62, 100-103, 332-338; inv. 340, file 3, sheets 118-124.
9. M. V. Frunze, "Izbrannyye Proizvedeniye" [Selected Works], Vol 2, Voyenizdat, 1957, p 3.
10. TsAMO, folio 7-A, inv. 587, file 1, sheets 40-149, 232-292.
11. Ibid., folio 19-A, inv. 599, file 5, sheets 92, 93, 142.
12. During the war, the chief of the General Staff worked 22 months on the fronts.
13. TsAMO, folio 48-A, inv. 1, file 1, sheets 7, 40; folio 15-A, inv. 1845, file 11, sheet 150.
14. Ibid., folio 16-A, inv. 1024, file 1, sheets 46, 60, 62.
15. KRASNAYA ZVEZDA, 7 January 1981.

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## WARTIME OPERATIONS: TROOP CONTROL IN AN OFFENSIVE

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[Article published under the heading: "Soviet Military Art in the Great Patriotic War and the Postwar Period" by Docent and Candidate of Military Sciences, Col (Ret) V. Maramzin: "The Organization of Troop Control of a Front in the Course of Offensive Operations"; passages printed in boldface in source are in italics]

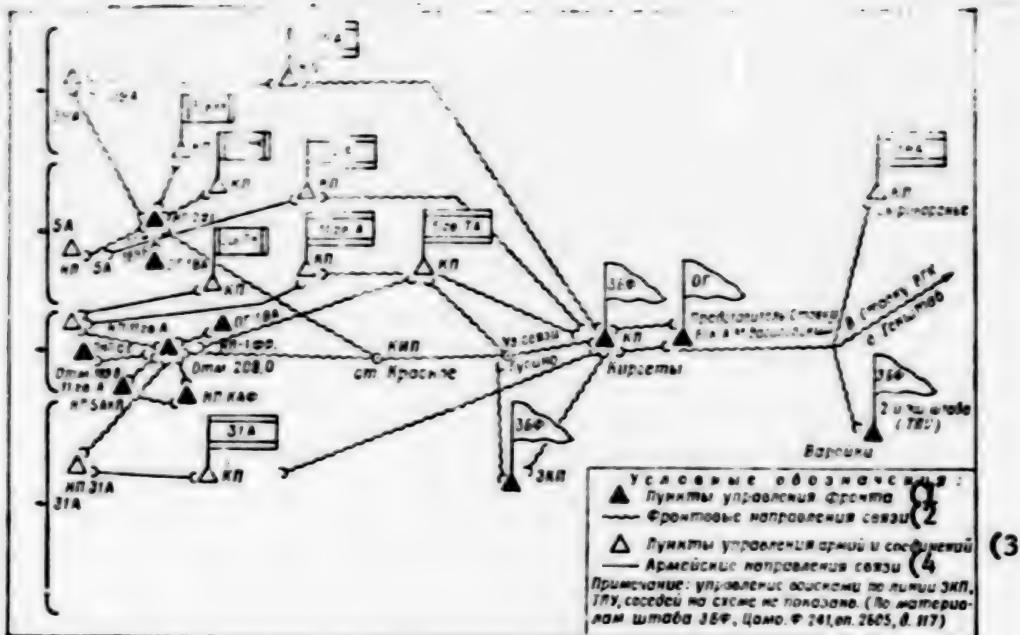
[Text] In the operations of the Great Patriotic War, the commanders and the headquarters bodies of the fronts focused their chief efforts on ensuring the constant combat readiness and capability of the troops, on the clear and organized start of an offensive, on achieving surprise and seizing initiative from the first hours of the engagement, on maintaining a high offensive mood among the personnel and continuous cooperation between the field forces and formations of the branches of troops and armed services and on the effective development of an offensive by powerful blows and fire against the enemy, the committing of new resources and the rapid and decisive maneuvering of troops in the aim of fully defeating the enemy groupings. An equally important task was uninterrupted material supply for the troops and the creation and efficient use of reserves. The commander and staff continuously collected, studied and analyzed the situation, discovered the strategy and plans of the enemy and its most dangerous groupings and concentrated efforts on their defeat and attaining the tasks of the operation. The carrying out of combat missions depended largely upon the flexibility, directness and continuity of troop control and this was achieved primarily by using work procedures and methods which best fit the specific conditions and the level of professional skill among the commanders, the chiefs of staff and staff officers. In addition, consideration was given to the degree of coordination among all headquarters bodies, the state of communications and the possibility of their integrated use in the course of combat. The combat experience in the area of control has maintained its significance under present-day conditions. For this reason, both in the fundamental historical works ("Istoriya Vtoroy Mirovoy Vojny 1939-1945" [History of World War II of 1939-1945], "Sovetskaya Vojennaya Entsiklopediya" [Soviet Military Encyclopedia] and others) as well as in memoir literature, a good deal of attention has been given to these questions.<sup>1</sup>

The article is an attempt to generalize the experience of the commanders and staffs of the fronts in the area of troop control during offensive operations and to show the trends of its development.

Troop control in the course of an operation was exercised by the commander of a front personally over the communications equipment, by visiting the control posts (PU) of the subordinate field forces (formations) as well as through the staff, the commanders of the branches of forces and the chiefs of services. Control included analysis and assessment of the situation, the taking of decisions and the posing of new tasks for the troops, organizational activities in the troops in preparing to carry out tasks, the maintaining of constant cooperation and so forth. The staffs were held responsible for the collection, analysis and generalization of situational data, the prompt reporting of them to the commander and the superior staff and the informing of adjacent units; the working out and reporting of proposals on the plan to the commander; the organizing of control over the prompt issuing of tasks to executors and over their fulfillment; help for subordinate staffs in troop control in the course of combat operations and the restoring of disrupted cooperation; the organizing of control posts, their moving and security, the maintaining of continuous communications and so forth.

The organizing of control posts and their prompt moving without losing contact with the troops were one of the major tasks of the staffs of the fronts in the course of an operation. Major factors contributing to the failure of offensive operations in the first period of the war were the shortage of men and equipment as well as serious disruptions in troop control. As the commanders and staffs gained experience in troop control under difficult combat conditions as well as as the quantity and quality of the communications facilities in the troops of the front increased (including radios, high-frequency telephone communications and the mobile communications centers), leadership of the troops improved rapidly and became more flexible, direct and continuous.<sup>2</sup>

Troop control in the course of offensive operations was carried out from command posts (KP) and observation posts (NP) as well as by the rear bodies and units from the rear command post (TPU).<sup>3</sup> When necessary the fronts organize not one but rather two NP, forward observations posts (PNP) and alternate command posts (ZKP). Their distance behind the forward edge depended upon the specific situation. Thus the NP of the fronts were the following distances away from the forward edge: 2-3 km in the Lwow-Sandomierz Operation (First Ukrainian Front), 5 in in the Iasi-Kishinev Operation in the Second Ukrainian Front and 10 km in the Third Ukrainian Front.<sup>4</sup> In the Vitebsk-Orsha Operation (23-28 June 1944), control over the troops of the Third Belorussian Front for the period of breaking through the defenses was organized from a KP to NP and TPU (see the diagram) [on the following page]. The KP of the front was organized 10 km from the forward edge, the first NP was 3 km away, in the zone of the 11th Guards Army, and the 2d was 1.5 km away in the zone of the 5th Army. At the first NP (mark 208.0) by the start of the operation was the commander of the front, Col Gen I. D. Chernyakhovskiy with the operations group of the staff, the chiefs of the branches of troops and the commander of the 1st Air Army. Here also were located the NP of the commander of the V Artillery Breakthrough Corps and the Operations Group (OG) of the staff of the 1st Air Army, and at the second NP (mark 189.6) worked the deputy chief of the operations directorate with the staff OG, the representative of the artillery commander and the staff OG of the 1st Air Army. At the TPU were the generals and admirals of the rear command and certain front staff sections. Communications lines had been run to the ZKP and a communications center set up.<sup>5</sup> Approximately the same principle was used to organize troop control in the First Baltic and First Belorussian fronts in the Belorussian and many other operations of 1944-1945.



System of control posts of the Third Belorussian Front  
in the Vitebsk-Orsha Operation (June 1944)

Key: 1--Control posts of front; 2--Front communications links; 3--Control posts of armies and formations; 4--Army communications links.

Note: Troop control through the line of the ZKP, TPU and adjacent units is not shown on the diagram. (From the materials of the Staff of the Third Belorussian Front, Central Archives of the Ministry of Defense, folio 241, inv. 2605, file 117.)

The stability and continuity of control in the course of combat operations depended largely upon the communications prepared ahead of time in the new areas and the organized moving of the control posts. In the aim of increased mobility, the front centers were mounted on cross-country motor vehicles. They could simultaneously serve two positions of the control post, they sometimes had a small reserve and ensured the operation of communications directly from the vehicles. It took 2 or 3 hours to set them up.<sup>6</sup>

In operations in the operational depth, troop control was usually carried out from a NP or KP the positions of which were approximately determined in the operations plan.

In the course of offensive operations, the KP of the fronts ordinarily moved every 2-8 days over a distance of 80-120 km, and those of the armies daily or every 1 or 2 days by a distance of 30-60 km. Thus, in the Iasi-Kishinev Operation, the KP of the Second Ukrainian Front moved three times, averaging 115 km each time and remaining 2-4 days at one place. In the Vistula-Oder Operation, the KP of the First Belorussian Front was moved 4 times over a distance of 60-120 km remaining from 3 to 7 and more days at one place. The KP of the 33d Army during the same operation changed its position 10 times with an average move of 40-50 km.<sup>7</sup> The control posts of the tank armies moved significantly more frequently (usually daily or even twice

a day).<sup>8</sup> The moving of the Field headquarters of a field force was carried out echelon by echelon. Usually at night, during a period in the lull of combat operations the first to move into the new area were the sections and headquarters directly involved with troop leadership. All the remainder set off later according to a schedule approved by the chief of staff in separate columns of 3-5 vehicles at night and in daylight. Such a procedure for changing areas ensured continuity of control.

*The work methods of the commanders and staffs and the specific tasks of troop control in the course of the operation were determined by the actual situation.* At the outset of an operation, when the troops were breaking through enemy defenses, the most important tasks of control were: ensuring an organized start for combat by all the men and equipment; achieving a high momentum of breakthrough; committing the mobile army groups and sometimes the groups of the front to the engagement; repelling massed air raids and counterstrikes by nearby operational enemy reserves; conducting continuous reconnaissance and so forth.

During actions in the enemy operational depth, the tasks of the command and the staff were: firm and flexible leadership over the mobile groups of the front and the combined-arms armies which were pursuing the enemy, surrounding and destroying it, the defeat of major operational and operational-strategic reserves, the crossing of major rivers and the breaking through of intermediate defensive lines. The important tasks were considered to be: the maintaining and restoring of disrupted cooperation between the tank, air and combined-arms armies, continuous logistic supply for the troops and maintaining of high combat readiness of the field forces and formations, particularly the tank troops and aviation.

In being at the NP, or in the event of necessity, in traveling to the control posts of the armies and formations, a commander of a front constantly followed the course of breaking through the enemy defenses. If the momentum of advance dropped on one of the sectors, he took measures to increase the strength of the thrust, primarily by calling in bomber and ground attack aviation, by committing the second echelons of the armies and the mobile group of the armies and front to the engagement, by maneuvering the artillery fire and so forth. Let us trace the order of work by the commanders and staffs using individual examples. In the Sandomierz-Silesian Operation, the first echelon rifle divisions of the First Ukrainian Front reinforced by tank and self-propelled artillery regiments and brigades, during a period of 2-3 hours on 12 January 1945, broke through the enemy defenses to a depth of 6-8 km. Further advance by the troops was halted due to stubborn enemy resistance. This circumstance threatened to reduce the overall momentum of advance and allow time for the enemy to bring up reserves and organize a defense in depth. Having assessed the situation, the commander of the front, Mar SU I. S. Konev, decided after a brief but powerful artillery softening up at 1400 hours to commit to battle mobile groups in various sectors (the XXV, XXXI and IV Guards Tank corps in the 3d and 5th Guards armies and the 4th and 3d Guards Tank armies of the front). The prompt committing of these troops to battle made it possible for the front assault grouping to complete the breakthrough of the main zone, to crush the enemy XXIV Tank Corps (its operational reserve), to advance by 15-20 km by the end of the first day and up to 40 km on the second along a front of around 60 km, having created good conditions for broad maneuvering actions by the tank troops in the operational depth.

A somewhat different situation developed in the breakthrough of enemy defenses by the Third Belorussian Front in the Vitebsk-Orsha Operation. It was already said that prior to the start of combat operations the commander of the front with the operations group was at the front NP in the area of the 11th Guards Army. However, success on the first day of the offensive (23 June 1944) came in the breakthrough area of the 39th and 5th armies. In the Orsha sector, the 11th Guards Army and the 31st Army encountered exceptionally strong field works and fire from the defending enemy grouping. For this reason Col Gen I. D. Chernyakhovskiy decided to focus chief attention in the zone of advance of the 5th Army. In order to be closer to the troops, to see the battlefield and personally direct the committing of the mobile troops to the engagement, he along with the operations group traveled to the second NP, where, having inspected the readiness of the horse-mechanized group of Gen N. S. Oslikovskiy (the III Guards Mechanized Corps and the III Guards Cavalry Corps) to be committed to the breakthrough, ordered it to start moving up on the evening of 24 June. From 2000 hours of the same day, the 5th Guards Tank Army of Mar Tnk Trps P. A. Rotmistrov was transferred to the front from the strategic reserve.<sup>9</sup> The commander of the Third Belorussian Front decided to commit it to battle behind the horse-mechanized group as this would make it possible to sharply increase the momentum of advance by the troops of the front.

In the Lwow-Sandomierz, Iasi-Kishinev, Vistula-Oder, Eastern Pomeranian and other operations, the leadership principle remained approximately the same. In controlling the troops from the NP, the commander of the front maintained continuous and close contact with the chief of staff working at the KP. They spoke over high-frequency telephone, the OG of the commander continuously informed the staff of the decisions taken by him and the staff, in turn, provided information on the situation along the entire zone of the front, in the adjacent units and on orders received from HqSHC and the General Staff. The chief of staff used the entire personnel of the field headquarters for collecting the situational data in the area of the front and the adjacent units, he analyzed it and then reported his conclusions and proposals to the commander. Simultaneously he organized control over the carrying out of the orders given by the commander, over troop logistical support, the forwarding of all information and the prompt reporting of situational data and decisions of the commander to the General Staff.

With an exacerbation of the situation in one of the sectors of the front, if the situation required, the commander with a small OG and communications, mainly radios, traveled to the NP of an army or even a formation (in the Lwow-Sandomierz Operation, the commander of the First Ukrainian Front, Mar SU I. S. Konev, traveled to the NP of the 60th and 38th armies, and in the course of the Polotsk Operation (July 1944), the commander of the First Baltic Front, Arm Gen I. Kh. Bagramyan, traveled to the KP of the 2d Guards, the 51st and 43d armies). During this time control over the remaining troops was provided from the KP by the chiefs of staff of these fronts.

It must be stressed that one of the most important and complicated tasks of the commander and staff of a front during an operation was firm and continuous control over the mobile groups (the tank armies and the horse-mechanized group). In committing them to battle, the staff of a front devoted chief attention to supervising the prompt freeing of the routes for the tanks, to organizing a traffic control service, to coordination with the first echelon troops, particularly with the artillery, and to protecting the mobile groups against air strikes. Ordinarily 5-7 hours after the start of an offensive by the first echelon troops, the commander of

the front personally clarified the task for the commander of the mobile group for entering battle. From this time the chief attention of the staff and the chiefs of the branches of troops and services was directed to supervision and supporting its entry into battle.

Particularly high demands were made on the control of mobile groups when they operated away from the main forces of the front, in the operational depth and were not linked by demarcation lines. Their combat operations were marked by great dynamicness, maneuverability and rapid changes in the direction of the main thrust. Thus, in the course of the Sandomierz-Silesian Operation, the 3d Guards Tank Army of Col Gen Tank Trps P. S. Rybalko three times altered the direction of the offensive. In the middle of January 1945, it was advancing successfully in the westerly direction, operating ahead of the 52d Army. In the aim of assisting in the defeat of the enemy and contributing to the advance of the 5th Guards Army, the 3d Guards Tank Army, upon orders of Mar SU I. S. Konev, turned south, making a flank strike against the Oppeln enemy grouping, and completely carried out the mission. After this it turned to the southeast and attacked the rear of the Silesian enemy grouping, forcing the latter to retreat, and at the same time assisted in the advance of the 21st Army. At the end of January, the 3d Guards Tank Army again resumed the offensive to the west. The maneuvering actions of this field force played an important role not only in defeating the Silesian enemy grouping by the troops on the left wing of the First Ukrainian Front but also in protecting the Silesian industrial region from destruction.

Control over the tank field forces (formations) in the operational depth was carried out by radio, by liaison officers on P0-2 aircraft, as well as by personal trips by the commander of the front to their PU. (For example, Mar SU I. S. Konev visited the PNP and the PKP of the 3d Guards Tank Army during the change in the direction of its offensive in the Sandomierz-Silesian Operation and during the period this army crossed the Spree in the Berlin Operation.)

Constantly during the war there was a desire of the commanders and staffs to have several communications channels with the mobile groups over the radio nets and links. In the event of a great distance between the tank troops and the main forces, intermediate radios or repeaters, were set up. The troops were controlled by radio, as a rule, by the broadcasting of brief combat orders and signals using the previously elaborated documents for concealed troop control, that is, coded maps, table, radio signals and so forth.

In a number of operations, for maintaining continuous contact, the mobile troops were sent representatives from the command of the front with radios and they directly maintained contact with their staff and reported on the course of combat operations.<sup>10</sup> With a significant distance (50-100 km) between the tank army and the main forces, in the aim of ensuring continuous control, OG with communications equipment were sometimes sent forward into the battle formations of the first echelon troops, and these could operate on the march (the Third Belorussian Front and the Vitebsk-Orsha Operation). In essence they were mobile control posts.

*Among the trends which were developed in the war years in improving control over the troops of a front are primarily the increased pace of control activities and the shorter time for collecting, studying and analyzing the situational data, for*

taking a decision and for issuing battle tasks to the troops. Under the conditions of the constantly increasing spatial scope, the dynamism of combat operations and the maneuverability of the troops, the commanders and staffs endeavored first of all to minimize the time required in collecting information from the battlefield and processing it and to maximally accelerate the preparation of the plans and the issuing of tasks to executors.

In improving the methods for preparing the subsequent offensive operation by a front in the course of combat operations, from 1943 a trend began developing to assign a group of staff officers and representatives from the branches of forces and services to work out a plan for the forthcoming operation under the leadership of the chief of staff and on the basis of the commander's decision. Ordinarily the elaboration of the plan of the following operation ended in the final stage of the one being conducted, and after its approval the troops were given additional tasks and the preparation for carrying them out was also made in the course of the offensive. Such an organization of the work helped to conduct several operations to a great depth without operational pauses.

During the war the parallel work method of the commanders and staffs was widely developed. This was particularly effective in a situation when it was essential to repel a powerful enemy counterstrike, to carry out major regroupings, to commit mobile troops and reserves to an engagement in a new sector, as well as in preparing successive front and army operations and so forth.

The essence of the designated method was that all preparations for combat operations in carrying out the decision approved by the commander of the front were implemented simultaneously in the operational and tactical levels within a maximum short period of time on the basis of preliminary verbal and written instructions from the senior staffs (the Vitebsk-Orsha, Bobruysk, Lwow-Sandomierz, Vilnius, Polotsk, Sandomierz-Silesian and other operations). Of course, work using such a method in the heat of combat operations required exceptional professional training on the part of the leadership of the front, the armies and the formations and high teamwork by all the headquarters bodies and staffs from the top to the bottom. At the same time it ensured flexibility, continuity and efficiency of troop control and this was a most important condition for obtaining the objectives of the operations.

With an increase in the scope of the operations, the fighting strength of the fronts and a rise in the dynamic nature of actions, the scope of cooperation broadened and it became more important to have continuous cooperation in an engagement and the rapid restoring of it in the event of a disruption.

In the course of an operation, the principles of coordination were put down by the commander of the fronts in giving new tasks to subordinates. Many of them (G. K. Zhukov, A. M. Vasilevskiy, I. Kh. Bagramyan, N. F. Vatutin, L. A. Govorov, I. S. Konev, K. A. Meretskov, K. K. Rokossovskiy, I. D. Chernyakhovskiy and others), having given the task, if there was time and the situation allowed, visited the armies and sometimes the formations in order directly on the spot to coordinate the forthcoming actions of the men and equipment. There the commander pointed out specifically how cooperation was to be expressed between the combined-arms, tank and air-field forces and the artillery formations (who was to attack certain objectives and

lines at what time, by what means and for how long). Such concrete and purposeful work in organizing (restoring) cooperation contributed to the successful carrying out of the set task.

Trips by the commanders to the troops began to be made more often from the summer-autumn campaign of 1943. They used any opportunity to investigate personally a difficult situation on the spot, to take the pulse of combat, to approve an optimum decision, to set combat missions and provide specific aid to the commanders in carrying them out. Such trips most often were made in breaking through the intermediate enemy defensive lines, particularly if this was carried out slowly, in committing a mobile group and the second echelon of a front to an engagement, in repelling strong enemy counterstrikes, in crossing major rivers, in destroying surrounded groupings and so forth. Such a method of control was effective. It can be widely employed in present-day operations as well.

The introduction of high-frequency telephone communications in the operations level played an important role in improving control. Its use sharply increased directness in troop control and provided an opportunity, without resorting to coding, to rapidly obtain detailed data on the situation in one or another sector of the front, to give a combat mission to a subordinate and explain to him how he should carry it out.

Also more important were calculations, analysis of the qualitative and quantitative indicators of the sides, the forecasting and profound prediction of the probable nature in the development of combat operations for taking an optimum decision. The experience of the war showed that only with broad reliance on the combined-arms staffs and the staffs of the branches of troops could the commander of the front control the troops confidently and effectively.

As a result of the increased dynamicness and maneuverability of combat operations, the demands rose sharply on the mobility of the control bodies. They should be maneuverable, mobile, they should quickly and covertly move into new areas and at the same time not lose constant contact with subordinate troops and the superior staff. In the war years this was achieved by the early planning of the moves by the control posts, by the creation of mobile communications centers, by the use of radios which operated on the move, by the preliminary organization of communications with the troops from the new areas, as well as by the consistent and planned shifting of the control posts. The development and improvement of these trends have, in our view, validity at present.

As combat experience was acquired, the control posts of all levels were brought closer to the troops. The commander endeavored to see the battlefield or at least one of the major sectors of the front (particularly on the sector of the main thrust). Moreover, the presence of the commander in direct proximity to the battlefield had a great morale effect on the personnel and instilled confidence in success.

During the war years every possible encouragement was given to reasonable initiative shown on the part of subordinate commanders in the interests of the most effective execution of their tasks within the framework of the operational plan while maintaining centralized troops control.

FOOTNOTES

1. I. Kh. Bagramyan, "Tak Nachinalas' Voyna" [Thus Began the War], Voyenizdat, 1977; I. Kh. Bagramyan, "Tak Shli My k Pobede" [Thus We Approached Victory], Voyenizdat, 1977; P. I. Batov, "Operatsiya 'Oder'" [Operation "Oder"], Voyenizdat, 1965; A. P. Beloborodov, "Vsegda v Boyu" [Always in Battle], Voyenizdat, 1979; A. K. Blachey, "V Armyskom Shtabe" [At the Army Staff], Voyenizdat, 1967; I. S. Katyshkin, "Sluzhili My v Shtabe Armeyskom" [We Served on the Army Staff], Voyenizdat, 1979; G. S. Nadysev, "Na Sluzhbe Shtabnoy" [On Staff Service], Voyenizdat, 1970; A. I. Radziyevskiy, "Tankovyy Udar" [Tank Attack], Voyenizdat, 1977, and others.
2. TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 361, inv. 8007, file 2, sheets 8-10; folio 208, inv. 2610, file 5, sheets 119-120; inv. 2617, file 10, sheets 121-123.
3. During the war years the NP was sometimes called the forward command post (PKP) or the auxiliary control post (VPU), and the TPU was the second echelon of the staff.
4. "Operatsii Sovetskikh Vooruzhennykh Sil v Velikoy Otechestvennoy Voyni 1941-1945" [Operations of the Soviet Armed Forces in the Great Patriotic War of 1941-1945], Vol 3, Voyenizdat, 1958, pp 339, 461.
5. TsAMO, folio 241, inv. 2605, file 117, sheets 46, 47.
6. Ibid., file 144, sheet 13.
7. Ibid., folio 333, inv. 2365, file 431, sheets 5-40; folio 345, inv. 5487, file 333, sheets 35-84.
8. Ibid.
9. Ibid., folio 48-A, inv. 2294, file 7, sheet 74.
10. Ibid., folio 241, inv. 2593, file 505, sheet 196.

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## WARTIME OPERATIONS: EMPLOYMENT OF COMBAT SUPPORT AVIATION

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[Article published under the heading: "Soviet Military Art in the Great Patriotic War and the Postwar Period" by Maj Gen Avn L. Mikryukov and Engr-Col G. Bryukhovskiy: "Experience of the Combat Employment of Aviation When Penetrating the Enemy Defense"; passages printed in boldface in source are in italics]

[Text] The breakthrough of enemy defenses in the years of the Great Patriotic War was one of the most complicated tasks in offensive operations.

The aim of the given article is to review the questions of the combat employment of aviation and the factors influencing its effectiveness in breaking through defenses following the experience of the Great Patriotic War.

The theory of a deep offensive operation elaborated by Soviet military science in the 1930's made it possible on the basis of the quantitative and qualitative growth of the Air Force to define and formulate their tasks carried out in the interests of the ground forces in breaking through enemy defenses, namely: in the preparatory period and in the course of combat operations by powerful air strikes to disrupt the troop control system; to carry out air softening-up for the attack; with the start of the offensive to cooperate with the troops on the battlefield; to support the committing to the breach and to continuously support the mobile group of the front, to seal off the combat area preventing the enemy from bringing up reserves to the battlefield from the interior.<sup>1</sup>

The experience of the Great Patriotic War affirms that the questions of the combat employment of aviation in breaking through enemy defenses was correctly worked out by Soviet military science.

*In the first period of the war, our aviation operated under exceptionally bad conditions. The high losses at the outset were felt, Nazi aviation was supreme in the air, and experience was lacking in planning and conducting major operations. The dividing of aviation into front and army (the proportional amount of the latter reached 55-60 percent) corresponded to one of the most important principles of its combat employment, that is, the establishing of closer cooperation with the troops on the battlefield. However, the essentially correct idea did not bring the desired results in practice, since at that time the limited air forces were scattered over the combined-arms field forces and formations.*

The commander of the Soviet Army Air Force in the directive of 25 January 1942 pointed out: "The use of the aviation of the fronts, considering its limited quantity, at present is being incorrectly carried out. The commanders of the front air forces, instead of the effective and massed use of aviation in the main sectors against basic objectives and enemy groupings which are impeding the successful carrying out of the tasks by the front, have scattered the equipment and efforts of aviation against numerous objectives in all sectors of the front.... The massed actions by aviation on the part of the commanders of the air forces of the fronts in the interests of the designated operations are carried out indecisively or are totally absent." As a result, although enemy defenses were of a focal nature and organized in the form of strongpoints to a shallow depth, the efforts of aviation in breaking through the defenses along a broad front were insufficiently effective.

In the designated period the involvement of aviation in breaking through defenses came down chiefly to a brief air softening-up for the attack. Later on it, in essence, ceased having any effect on the enemy or it was limited to episodic strikes by small groups (a flight, a group of six or a squadron), often without a fighter cover. But even then there were examples of a different sort. Thus, in the counteroffensive at Moscow, the air forces provided substantial aid to the troops in breaking through the enemy defenses. For the first time, the planning of air operations was carried out on the front level of command. The principle of the massed employment of the air force lay at the basis of this planning. Since in the counteroffensive the Western Front was given the main role, more than 1,000 aircraft were assigned to assist it, and this was around 90 percent of all the aviation located around Moscow. In turn, the commander of the Western Front concentrated 75 percent of the available aircraft on the right wing of the front opposite the strongest enemy grouping. On the first day of the counteroffensive, a brief 15-minute air softening-up was planned in the breakthrough sectors. Subsequently, with the start of the attack, the main efforts of the bomber and ground attack aviation were focused on combating the reserves. With air support, the troops on the right wing of the front broke through the enemy defenses and over 7 days advanced 20-60 km to the west, creating conditions for outflanking the basic groups of the Army Group "Center" on the north.

From 6 through 16 December, on the right wing of the Western Front, more than 3,600 sorties were made, and on the left only 100. As a total in the interests of the three fronts over this period around 6,950 aircraft sorties were made, including up to 50 percent with the objective of attacking enemy troops and military equipment.

In the counteroffensive, the missions were issued to the formations and units for a single day or even a sortie. For each day of the operation a planning table was worked out and this coordinated the missions of the ground forces and the aviation in terms of location and time. At the command posts of the combined-arms armies there were usually representatives from the cooperating air divisions and the staff of the front air forces. They were responsible for transmitting requests for the assigning of aviation and for informing their staffs about the ground and air situation.

By the start of the counteroffensive, some 15-30 km from the front line, raiding airfields were organized for the fighters and staging airfields for the ground attack planes and this shortened the attack time.

In 1942, as a result of the quantitative and qualitative growth of the aircraft fleet, the organizational structure of the air force was further developed. By an order of the NKO [People's Commissariat of Defense] of 5 May 1942, combat aviation was removed from the combined-arms armies. The order pointed out: "For the purposes of increasing the strike force of aviation and successfully employing massed strikes, the air forces of the Western Front are to be united into a single air army, giving it the name the First Air Army."<sup>2</sup> Thus the beginning was made to creating the air armies of fronts and at the same time the theory and practice of the combat employment of the air force in breaking through enemy defenses were further developed.

*In the second period of the war a new form of employing aviation in an offensive operation was widely developed. This was the air offensive. The concept of an "air offensive" was officially introduced by the Infantry Field Manual of the Soviet Army of 9 November 1942 and was approved by an order of the NKO. It included the air softening-up for the attack and air support (escorting) of the troops of the front. Initially an air offensive envisaged air operations in breaking through the main defensive zone, that is, it was carried out on a tactical scale. Later the plans elaborated for an air offensive reflected the tasks and sequence of air operations in accord with the overall concept and plan of the operation (the counteroffensive at Stalingrad in the autumn of 1942). From the summer of 1943 (the counteroffensive at Kursk), it began to be carried out to the entire depth of the army and front offensive operations and assumed an operational scope.*

The procedure of execution and the duration of air softening-up were definitely influenced by the nature of enemy defenses, the time allocated for the softening-up for the operations and the combat capabilities of the air armies on the fronts.

From the summer of 1943, the Soviet troops had to break through previously prepared and deeply echeloned enemy defenses with a developed network of trenches, communications trenches, engineering works and obstacles. For this reason a strong air softening-up preceded the breakthrough of enemy defenses. Thus, in the Orel Offensive Operation (July 1943), on the night before the breakthrough, the bombers of the 15th Air Army and the long-range aviation made over 600 aircraft sorties and dropped around 550 tons of bombs on targets within the main zone of enemy defenses. In the morning the aircraft of the III Ground Attack Air Corps struck objectives in the breakthrough sectors. Some 5 minutes before the start of the attack, 89 bombers dropped 500 high explosive and more than 3,000 fragmentation bombs on the major centers of resistance and artillery positions. The Soviet troops without a pause captured the two trenches of the first defensive zone and began to advance successfully.<sup>3</sup>

Instructive was the organization of combat operations by the 16th Air Army of the Central Front in breaking through defenses on the Kromy axis where up to 1,000 and more aircraft sorties were made daily. The powerful massed strikes by 200-300 aircraft were combined with echeloned air operations in the sectors of the offensive by the attack groupings of troops.

The preparation of aviation for combat operations in breaking through the defenses were carried out considering the acquired combat experience. Particular attention was paid to organizing precise cooperation with the ground troops and mutual identification of the troops and aviation. While in the first period of the war, visual

signal panels, smoke charges, signal rockets and tracer bullets and shells were used basically to designate the front line, in the second the air units and formations were equipped with radios making it possible to control aviation in the air much more successfully. The promptness and accuracy of bringing the aircraft to the designated targets were thereby increased. The areas of combat operations were equipped with ground support navigation equipment (ZOS) for daytime and night flights, and homing beacons and searchlights were widely used. In the air armies which possessed time for preparing for combat operations, map games, exercises and conferences to exchange combat experience were held. The rear units prepared more carefully for maneuvering behind the advancing troops and stockpiled supplies (ammunition, fuels, lubricants and so forth).

An offensive by the troops of the fronts usually was accompanied by a fierce struggle to win operational supremacy in the air. The balance of forces for the air groupings of the belligerents was in favor of the Soviet aviation. For example, by the start of the counteroffensive at Stalingrad, it equaled 1.2:1, and in the battle of Kursk, approximately 3:1.<sup>4</sup> The air armies of the fronts spent up to 35-45 percent of all the aircraft sorties in an operation on winning operational supremacy in the air.

At Kursk, for the first time the ground attack planes used in mass numbers the hollow-charge antitank bombs and this sharply increased the effectiveness of their strikes against tank groupings. The bombers increased the accuracy of the attacks and the PE-2 aircraft began to use dive bombing more frequently. The Soviet fighter pilots on the Yak-7 and LA-5 aircraft successfully employed not only horizontal but also vertical maneuvers.

In the second period of the war, for the purpose of bringing air control closer to the battlefield, auxiliary command posts of the air armies were set up. These were located next to the command posts of the front commanders some 7-8 km behind the forward edge. The command posts of the commanders of fighter and ground attack air corps were located together with the observation posts of the commanders of the combined-arms armies some 2-3 km behind the forward edge.<sup>5</sup> At the command post the corps commander had available a group of guidance officers with communications equipment. In the sectors of the main strikes, air representatives were sent out up to the level of rifle divisions.

The most complicated were the questions of organizing cooperation of aviation with artillery and the tanks in the course of ground air support. In the course of the battle where tanks were being used, the front line was not clearly designated. The use of visual panels and smoke were excluded and for this reason there was a detailed working out of cooperation in terms of location and time. The troops were designated using signal rockets and special identification marks on the turrets of the tanks and SAU [self-propelled artillery mount]. The aircraft were led to ground targets by radio.

An air offensive was carried out fully for the first time in the counteroffensive of our troops at Kursk. It started with strong air softening up, after which the bombers and ground attack planes were immediately shifted to air support. With the retreat of the enemy, pursuit was carried out until the moment the operation was concluded. In the course of the breakthrough, due to the increased efficiency of

the control system and the more precise organization of cooperation, the aviation attacked the close-lying and most important enemy objectives, the tanks and artillery blocking the development of the breakthrough. With the committing of the mobile formations to the engagement, the efforts of the air force were concentrated on neutralizing antitank defenses in depth and isolating the combat area from approaching reserves.

At the same time our aviation actively countered the enemy reserves (the Belgorod-Khar'kov, Smolensk, Voronezh-Kastornoye and other operations). For neutralizing enemy aviation, attacks were made against enemy airfields (the Orel, Kiev, Melitopol' and other operations).

There was greater effectiveness from air operations by utilizing experience and skills of the personnel. The basic areas for increasing the effective combat employment of aviation in breaking through enemy defenses were: its decisive massing on the breakthrough sectors; improving the control system; the increased combat capability of the aircraft; the increase in the number of objectives of the strikes and the continuous air operations against them. The following trends were becoming more and more apparent: the increased scope of the air offensive; the making of strikes to the entire depth of enemy defenses; the broad combining of various methods of air operations (massed and concentrated strikes with echeloned operation); detailed coordinating of air operations with artillery and tanks with a fire strike against the enemy.

Air reconnaissance was of great importance. While in the first period of the war the basic method of air reconnaissance was visual observation (basically tactical reconnaissance to a depth up to 50 km) and aerial photography had just begun to be used, in the second period of the war, the role of aerial photography increased. All types of aviation were widely involved in air reconnaissance.

No offensive operation was now carried out without repeated preliminary photographing of enemy defenses. Oblique photography also began to be used.

In the third period of the war, our troops had to break through even stronger enemy defenses with a developed firing system and engineer works. In breaking through such defenses the role of aviation grew steadily. In all the operations from this period of the war, in preparing for the offensive, powerful air groupings of the fronts were organized and in quantitative and qualitative terms these surpassed the opposing groupings of Nazi aviation by several-fold. While in the first period of the war, the front field forces advancing in the main sectors had approximately 300-400 aircraft, and 650-1,000 in the second period of the war, in the third period there were 1,800-2,500,<sup>6</sup> and in major operations up to 3,000 and more aircraft. For example, in the 16th Air Army before the start of the Vistula-Oder Operation, there were 1,290 aircraft, and in the Berlin Operation, 3,188 aircraft.<sup>7</sup> The quantitative ratio was in favor of the Soviet Air Force. At Leningrad and Novgorod it equaled 3.7:1; in the Belorussian Operation 4.1:1; in the Iasi-Kishinev 3.4:1 and in the Berlin Operation 4:1.<sup>8</sup>

Thus, the air armies in the final period of the war had 6-8-fold more aircraft than the air armies (the air forces of the fronts) in the first period. The proportional amount of bomber and ground attack aviation rose, in comparison with the first

period, from 41.4 to 55.3 percent. At the same time the density of bomb strikes increased. While in 1943, they equaled 17-20 tons per  $\text{km}^2$  of target area, in 1944, 60-80 tons, and in 1945, 100 and more tons.<sup>9</sup> This substantially increased the fire power of the air force in breaking through the enemy defenses.

The planning of air operations became more concrete and detailed.

The principle of the decisive massing of the air forces was maintained in all the offensive operations in the third period of the Great Patriotic War. Thus, in the Lvov-Sandomierz Operation of 1944, the commander of the 2d Air Army assigned 88 percent of its fighting strength to support and cover the two assault groupings of the First Ukrainian Front. In the Berlin Operation, more than 90 percent of the forces of the 16th Air Army were assigned to carry out a similar mission on the First Belorussian Front. Here from 350 to 500 aircraft were used for defeating the most important enemy groupings.

Immediate air softening-up sometimes was carried out not only before the beginning but also in the course of an operation prior to committing the tank armies or the second echelons of the fronts to the engagement and in the period of breaking through the enemy intermediate defensive lines in the operational depth (the East Prussian, Berlin and other operations).

With an increase in the fighting strength of the air armies of the fronts and a rise in their capabilities in the operations of the third period of the war, aviation largely changed over to continuous and simultaneous operations against objectives in the entire tactical enemy defensive zone. During the air support period, the ground attack planes were over the battlefield during all daylight hours and operated successfully in groups from a flight up to an air regiment. During the same time the bomber aviation made concentrated strikes by the forces of an air division (corps) against strongpoints, centers of resistance, reserves and other important objectives. The bomber strikes were timed to the beginning of the attack on these objectives by the troops of the front.

In breaking through fortified areas (the Vyborg, East Prussian and other operations), in addition to immediate air softening-up, preliminary softening-up also began to be employed.

In the third period of the war, even wider use was made of night bombers. Their operations were combined with the subsequent making of concentrated or massed strikes against enemy troops directly before our troops went over to the offensive. Thus, in the initial Berlin Operation, in the sector of the main thrust of the First Belorussian Front, the air softening-up for the attack was carried out by the night bombers of the 16th and 18th air armies. From 0430 hours to 0600 hours on 16 April 1945, they made 800 aircraft sorties. With the coming of dawn, massed and concentrated strikes were made against the two last lines of trenches in the main defensive zone and against the artillery positions. For an hour up to 650 ground attack planes carried out their missions under the cover of around 300 fighters. As a result, the enemy defenses were subjected to continuous attack by the artillery, tanks, the ground attack and bomber aviation.

The increasing of efforts by the troops and the conclusion of the breakthrough, as a rule, were achieved by committing the tank armies, the tank and mechanized corps to the engagement with the support of major air forces. The tank armies were forced to operate in "narrow corridors," being unable to maneuver. In being the basic objective of the strikes, they acutely needed a dependable cover and support from the air. In committing the tank armies to an engagement, for the aviation it was important to prevent the enemy from making bomb strikes against the tanks, to neutralize the antitank weapons and strongpoints on their route and secure their flanks.

In the aim of the most effective use of aviation in the interests of the tank armies, detailed cooperation plans were worked out. These plans which, as a rule, were drawn up for 1 or 2 days coordinated the efforts of the air and tank armies in terms of lines, objectives and tasks, they determined the methods of cooperation and set the procedure for calling in aviation to the battlefield and giving it missions. The plans also set the signals for mutual recognition and target designation, they set the daily flight load of the air formations, they worked out coded maps and uniform call tables and they assigned the guidance officers and the means of target designation and mutual recognition. To a significant degree the success in breaking through defenses depended upon how carefully the enemy defenses and particularly the artillery firing system had been disclosed. For this purpose reconnaissance aircraft conducted vertical photography to a depth up to 80 km. Oblique photography was also used in the main defensive zone. At the same time careful reconnaissance was carried out for the objects on the battlefield, the lines of communications, the basing of enemy aviation, and the routes of advance of the tank formations and units.

These data were plotted on large-scale maps used for the troops and aviation. All the targets in the breakthrough zone were designated and numbered, and ground models were also made with the configuration of the enemy defenses. Personnel in driving up to the forward edge became acquainted in detail with the situation on the spot. Military games on maps, terrain models, flight exercises of the air regiments and divisions and training at ranges were widely used.

The strategic air supremacy won by Soviet aviation in the battle of Kursk as well as the quantitative and qualitative supremacy in the major operations of the third period of the war did not exclude a fierce air battle during a period of breaking through the enemy defenses. For example, in the Iasi-Kishinev Operation, during the first 3 days of the battles, in breaking through the defenses 136 enemy aircraft were shot down in air battles (a total of 163 in the operation). In the Berlin Operation, just from the period of 16-19 April 1945, the fighter aviation of the First Belorussian and First Ukrainian fronts conducted 645 air engagements, that is, 50 percent of all the battles in the operation. Enemy air losses were 53.5 percent of all the losses in the operation which lasted 22 days.<sup>11</sup> Depending upon the situation, air strikes were made against airfields and enemy antiaircraft artillery was neutralized. The necessity of countering the antiaircraft artillery was determined by the significant losses of our aviation during the period of breaking through enemy defenses. For example, in the Berlin Operation the very strong fighter cover for the ground attack and bomber aviation reduced the losses caused by fighter aviation, but the damage caused by enemy antiaircraft artillery required the neutralizing of it by the ground attack aviation. During the first day of the breakthrough, the ground attack planes neutralized and destroyed over 70 antiaircraft weapons, 20 on the second and around 100 on the third.<sup>12</sup> Losses from antiaircraft artillery declined.

The air forces and the ground forces acquired great experience in organizing cooperation and in 1944 this was reinforced in the corresponding instructions on cooperation, identification, target designation and communications of aviation with ground forces. These questions began to be settled comprehensively. The questions of joint operations of aviation with tanks and artillery were worked out in particular detail in breaking through the enemy defenses. The designating of friendly troops for the aviation became a duty primarily of the combined-arms commanders and staffs. Aviation was controlled by radio and by liaison aircraft. Tank-carried radios were often used for target designation and guidance. In a whole series of offensive operations (Berlin, Prague and others), radio relay lines began to be used for communications between the command posts and radars for detecting enemy aircraft and for guidance. The broad use of new technical devices and the presence of air representatives and guidance officers with communications equipment in the corps, divisions and forward units of the ground forces increased the reliability and directness of control over air operations and made it possible to more precisely coordinate the questions of air cooperation with the ground forces and quickly maneuver the forces to the required sector.

Thus, the experience of the past war has shown that the indispensable conditions for successful air operations in breaking through enemy defenses during offensive operations are: the use of large air forces and their massed use in the sector of the main thrusts by the troops of the fronts, the winning of tactical and operational air supremacy and centralized control.

An analysis of air force operations in breaking through defenses in the course of the past war makes it possible to point out the following *basic trends*. These, *in the first place*, are the use of all types of aviation in conducting air reconnaissance both in the preparatory period as well as in the course of the operation; improving the procedures, methods and means of air photography, including panorama and oblique. *Secondly*, a rise in the density of fire effect in air softening-up, an increase in its depth, and the making of air strikes in direct proximity to the forward edge so that their results could be immediately used by the ground forces, as well as an increase in the forces and strikes to support the committing of the mobile groups of fronts and armies to the engagement, the sealing off of the battlefield from the bringing up of fresh enemy units (reserves). *Thirdly*, the organization of continuous and flexible support of the troops in close cooperation with them, and particularly with the artillery and the tanks. *Fourthly*, the bringing of the air control posts closer to the forward edge and the locating of them near the command posts of the commanders of the combined-arms field forces and formations, the broadening of the rights of the air representatives in the troops, the improving of the system of mutual recognition and target designation of the troops and aviation and the wide use of radio electronic equipment for control and guidance of aviation to air and ground targets.

Also of important significance was careful preparation of the units, formations and staffs for the forthcoming operations and the careful elaboration of cooperation questions.

A study of the combat employment of aviation in breaking through enemy defenses makes it possible to more profoundly understand and further develop the questions of operational art and tactics for the Air Force and helps to raise its combat readiness and capability.

FOOTNOTES

1. "Polevoy Ustav Krasnoy Armii. Proyekt" [Red Army Field Manual. Draft], Voenizdat, 1941, pp 30, 108, 355-365.
2. TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 290, inv. 517179, file 7, sheet 27.
3. "Sovetskiye Voyenno-Vozdushnyye Sily v Velikoy Otechestvennoy Voynye 1941-1945 gg." [The Soviet Air Force in the Great Patriotic War of 1941-1945], Voenizdat, 1968, p 190.
4. Ibid., pp 136, 187.
5. B. A. Ageyev and I. V. Timokhovich, "Bitva pod Kurskom. Deystviya Voyenno-Vozdushnykh Sil (Iyul'--Avgust 1943 g.)" [The Battle of Kursk. Air Force Operations (July-August 1943)], Monino, 1955, pp 46, 47.
6. I. V. Timokhovich, "Operativnoye Iskusstvo Sovetskikh VVS V Velikoy Otechestvennoy Voynye" [Operational Art of the Soviet Air Force in the Great Patriotic War], Voenizdat, 1976, p 106.
7. VOYENNO-ISTORICHESKIY ZHURNAL, No 10, 1980, p 21.
8. "Istoriya Vtoroy Mirovoy Voyny 1939-1945 gg." [History of World War II of 1939-1945], Vol 4, Voenizdat, 1945, p 284; Vol 9, 1978, pp 27, 47, 104; Vol 10, 1979, pp 92, 315.
9. I. V. Timokhovich, op. cit., p 137.
10. [Not in text.]
11. Estimated from the book "Operativno-Takticheskiye Ocherki Boyevykh Deystviy VVS V Operatsiyakh" [Operational-Tactical Sketches of Air Force Actions in Operations], Voenizdat, 1952.
12. "Boyevyye Deystviya Voyenno-Vozdushnykh Sil Sovetskoy Armii v Berlinskoy Operatsii" [Operations of the Soviet Army Air Force in the Berlin Operation], Voenizdat, 1951, p 190.

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## DEVELOPMENT OF TACTICS FOR MOUNTAIN-WOODED TERRAIN

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[Article published under the heading "Soviet Military Art in the Great Patriotic War and the Postwar Period" by Chief of Staff of the Central Group of Forces, Lt Gen V. Kozhbahteyev: "Development of Tactics for Troop Operations in Mountain-Wooded Terrain (1946-1980)"]

[Text] In the course of a war, the offensive and defensive are conducted on the most diverse terrain, including mountain-wooded. In terms of its natural and climatic conditions, it differs significantly from flatland. Here the combat operations are influenced by the ruggedness of the terrain, the limited number of roads, the difficulty in traveling over them, the possibility of slides, drops in atmospheric pressure and frequent weather changes. Maneuvering, particularly with heavy combat equipment, observation, orientation, target designation, fire correction, the control of subunits and the maintaining of cooperation because of this are significantly more difficult. In addition, with nuclear explosions great destruction and tree falls can form, fires can break out and this also impedes troop operations.

During the years of the Great Patriotic War, the Soviet Army units and subunits gained a good deal of experience in fighting on mountain-wooded terrain. An example would be the Eastern Carpathian Operation of the First and Fourth Ukrainian fronts. In September 1944, the troops of the 38th and 1st Guards armies fighting on the adjacent flanks of these fronts conducted successful battles to capture the Carpathian passes.

Practice has shown that on mountain-wooded terrain, the tank-accessible routes along roads and valleys were the best for an offensive. However an offensive only along such axes led to the "pushing back" of the enemy and the slow crossing of its defenses. At the same time on the defensive there were always little occupied or completely unoccupied areas which ordinarily lay in inaccessible terrain. Considering this, our troops often made the main thrust on a less accessible but weakly defended sector with the subsequent coming out in the flank and rear of the basic enemy grouping. Thus, in September 1944, the subunits and units of the 42d Guards Rifle Division of the Second Ukrainian Front, in breaking through enemy defenses on the western bank of the Bistritsa River, made the main thrust not through the valley of this river, where enemy defenses were the strongest, but rather through the mountains with the subsequent coming out onto the highway and into the river valley.<sup>1</sup> In the

course of the offensive across the mountain-wooded terrain, a substantial place was given to the forward, outflanking detachments the actions of which were marked by a decisive nature and this ensured the success of the main forces. For example, the forward detachment of the XXIII Tank Corps as part of the subunits of the 39th Tank Brigade on 24 August 19<sup>th</sup> captured a rail bridge 2.5 km to the west of Saucesti. Due to this the basic forces of the corps were able to break into Bacau on top of the enemy.<sup>2</sup>

Combat operations under the conditions of mountain-wooded terrain provided much that was instructive in the use of the branches of troops. The independent employment of tanks in impassable areas was excluded. As a rule, they operated in the infantry battle formations. Characteristically the appearance of even individual vehicles where the enemy was not expecting them led to success.

The organic artillery also successfully carried out its missions. However the basic mass was used along roads. Mortars were a particularly effective means of infantry support on an offensive.

The experience acquired during the years of the previous war in conducting combat operations in a mountain-wooded area has not lost its significance at present. However the tactics of the offensive and defensive by subunits in the postwar period have been continuously improved on the basis of the increased capabilities and the new weapons.

In organizing offensive combat in mountain-wooded terrain during the postwar years particularly great significance has been given to the most effective definition of the combat tasks and to the configuration of the subunit battle orders. The experience of troop exercises shows that the content and depth of the combat missions have been basically determined by the same factors as under ordinary conditions, namely: by the role of the given subunit in combat, its place in the battle order, by the fighting strength and nature of enemy defenses, by the use of nuclear weapons and other weapons. But along with this the terrain conditions have had a great impact on the content of the combat mission. While in an offensive in broad valleys, across mountain plateaus and along river channels, the motorized rifle and tank subunits can be given approximately the same tasks in terms of depth and content as in operations under ordinary conditions, on inaccessible terrain, where it is difficult for the subunits to maneuver, and where the use of tanks and artillery is restricted, the momentum of advance inevitably drops and this causes a certain reduction in the depth of the tasks.

The immediate task of a battalion advancing in the first echelon in a sector where a nuclear strike has been made against the enemy consisted in capturing a group of elevations on which an enemy first echelon company was defending. Subsequently it was indicated an axis of operations and it was also instructed to capture a commanding elevation, a mountain pass, a range or other important tactical objective deep in the enemy defenses.<sup>3</sup>

In conducting combat using solely conventional weapons, when it is essential to operate on impassable terrain, the battalion is given a shallower task consisting of destroying the enemy at the platoon strongpoints on the forward edge, capturing the subsequent company strongpoint and important elevation or pass and so forth.

The width of the front of the offensive by the subunits depends upon the capacity of the sectors for troop operations. However, in all instances it does not exceed the standards set for subunits fighting under ordinary conditions.

In offensive combat, the beginning of the attack by the motorized rifle and tank units is usually preceded by a fire attack against the enemy. In the course of the softening-up, artillery and mortar subunits attached to the battalion (company) or supporting it neutralize or destroy the enemy weapons and personnel simultaneously to the entire depth of its defenses and most securely in the strongpoints located near roads and on the routes of advance of the subunits.<sup>4</sup> In destroying small targets, as the experience of exercises has shown, direct laying is effective from the guns and tanks. Firearms are ordinarily used for destroying personnel and weapons in the lower tier.

Aviation according to the plan of senior chiefs is to concentrate its efforts primarily on neutralizing enemy objectives located deep in its defenses. Helicopters have been very successfully used for hitting targets located on the crests of ranges and on the backsides of hills.

In contrast to ordinary conditions, in mountain-wooded terrain an attack on the battalion level and above often is carried out at different times. Initially the enemy is attacked by subunits operating on secondary sectors and this confuses the enemy and distracts the defending forces from the main sector. In attacking an elevation with a tiered positioning of weapons, the artillery and mortars with the approach of the attacking subunits to the elevation shift their fire against the weapons located on the upper tiers.<sup>5</sup> The attack on the elevation is carried out, if possible, simultaneously from the front, the flanks and the rear.

An attack is carried out differently when between the initial position of the advancing troops and the forward edge of enemy defenses there is a natural obstacle beyond which a no-man's land has formed. The motorized rifle subunits rush to its edge and cross it at a walk in order to maintain their strength and upon leaving it, in continuing to attack rapidly, rush the enemy's first trench.

As is stated in the field manual, mountain passes are seized by a battalion independently or in cooperation with an outflanking detachment and an airborne landing party.<sup>6</sup> With the independent taking of the pass, the battalion first of all captures the commanding heights adjacent to it, then quickly moves into the flank and rear of the defending enemy and by a decisive attack destroys it. Then the subunits dig in. The commanders send individual reconnaissance patrols forward and when necessary also to the flanks, the weapons are brought up and the offensive continued.

The specific conditions of mountain-wooded terrain also influence the configuration of the battle order, the basic feature of which is the assigning of outflanking detachments which carry out the most diverse tasks, such as: destroying enemy nuclear weapons and control posts, capturing important objectives and lines in cooperation with a tactical airborne landing force in the rear of the defending troops and the holding of these until the arrival of the subunits advancing from the front and so forth.

The subunits assigned as the outflanking detachment usually operate dismounted. As a rule, an officer with a radio from the artillery subunit stayed with the detachment's commander for the prompt calling in and correcting of fire by the supporting artillery. The success of the offensive by the subunits operating as the outflanking detachment depends largely upon the concealment of the maneuver which is usually executed on an inaccessible area of the terrain and in a sector unexpected for the enemy.

In one of the tactical exercises of our group of forces, a motorized rifle company, in acting as the outflanking detachment, advanced along a mountain gorge which rose up to the commanding height with the designation 777.7. The company subunits captured the elevations adjacent to it but their further advance was blocked by the organized "enemy" fire from elev. 777.7 and flanking fire from the strongpoint on elev. 642.0.

The company commander, Capt S. V. Kupin, in considering the particular features of the terrain, correctly maneuvered the fire and subunit. Under the existing situation, at his command, the artillery and mortars neutralized the upper tiers of enemy weapons on elev. 777.7. During this same time, the motorized rifle platoon of A. I. Kon'kov covertly skirted the ravine along a path and reached the "enemy" strongpoint on elev. 642.0.

With surprise fire the platoon from a short range destroyed the "enemy" flanking weapons. The simultaneous and decisive attack by the company from the front and the flank completed the success of the action. The advancing troops captured the mountain pass.

In developing the offensive deep in the enemy defenses, the motorized rifle and tank subunits, as the experience of the exercises has shown, conduct the most diverse combat operations: they advance in narrow valleys, they capture mountain passes and advance along gorges (defiles) or mountain ranges.

In the course of combat for commanding heights and passes, the subunits often repel counterattacks. Here particular attention is given to selecting the line in order to put the counterattacker in a disadvantageous position, that is, to force him to attacking advancing up a slope, and so forth.

As soon as the enemy begins to retreat, the attacking subunits immediately go over to pursuit, endeavoring as quickly as possible to reach the enemy rear even in small groups. On the enemy routes of retreat they make bold raids against its columns, control posts and nuclear weapons, they build obstacles and destroy crossings, bridges and roads. If possible the motorized rifle subunits involved in the outflanking are reinforced by tanks and combat engineers.

The experience of exercises has shown that in creating the battle order it is necessary to ensure the greatest independence of the subunits, particularly those which operate away from the main forces. Under the conditions of mountain wooded terrain, of important significance is the initial configuration of the battle order as it is difficult to change this in the course of combat and sometimes completely impossible. The reforming of the battle order like the reallocation of reinforcements between the subunits are possible ordinarily within just one sector. Because of this it is

advisable to reinforce the motorized rifle companies and platoons with the required amount of artillery, tanks, mortars as well as combat engineers and chemical warfare troops.

The tank subunits, as the experience of tactical exercises in our group shows, can operate as part of the first echelon only on sectors open for tanks and can sometimes carry out independent tasks of capturing mountain passes, road junctions, important population points or prevailing heights. In this instance they are reinforced with motorized rifle and combat engineer subunits.

In line with the abrupt and quick changes in the situation, the subunits, as a rule, are given strong reserves with the task of preventing the enemy from enveloping and outflanking, to protect the rear subunits, to counter sabotage groups as well as increase the efforts on the main sector.

In actions on mountain-wooded terrain, an important role is assigned to tactical airborne landing forces. As the experience of troop exercises has shown, the motorized rifle subunits which are part of landing forces in a short period of time can capture mountain passes, commanding heights and other important objectives in the enemy rear, thereby providing substantial aid to the advancing subunits. The composition of the landing force can be the most diverse. For capturing the most important objective (a mountain pass or a road junction) usually a motorized rifle battalion is assigned reinforced by artillery and by combat engineer subunits. Smaller sized landing forces such as a company (platoon) are used for capturing separate objectives on inaccessible terrain, while special landing groups may be assigned for carrying out reconnaissance missions.

The artillery and mortars are ordinarily allocated in such a manner as to ensure independent actions of the subunits during the entire action. The subunits of anti-aircraft weapons are positioned in the battle formations considering the terrain conditions and the possibility of the sudden appearance of an air enemy, particularly at low altitudes. Here they, as a rule, occupy positions on elevations and the slopes of ranges at various levels and are ready to fire at targets below the horizontal plane.

A particular feature of the organization of cooperation in mountain-wooded terrain is that it is aimed at coordinating the actions of the subunits on the individual sectors. Because of this, as the experience of exercises has shown, the actions of the main forces are coordinated with particular care with the outflanking detachments as well as with the tactical airborne landing forces if they are employed. It is very important to precisely coordinate the joint actions of the subunits in capturing mountain passes and commanding heights so as to make surprise attacks against these objectives from different directions.

During the postwar period there has been definite development in the tactics of conducting defensive combat in mountain-wooded terrain in being based on the experience of the past war as have offensive tactics. The depth of defenses, their activeness and strength have increased. With the appearance of nuclear weapons, the tactics of defensive action have also changed. At this stage the paths have been outlined for achieving stable antinuclear defenses and also the methods for organizing this quickly. The corresponding theory has been worked out for the defensive configuration and the methods of conducting defenses have been outlined. The theory is based

on the maximum use of nuclear strikes and fire of conventional weapons for repelling the advancing enemy, the dispersion of one's own troops and their protection against weapons of mass destruction.

The experience of tactical exercises conducted in our group of forces shows that the sequence and content of the work done by the subunit commanders in organizing defenses in a mountain-wooded terrain have certain particular features determined by the nature of the terrain, and in particular, by the difficulty of moving during reconnaissance and the selecting of weapons positions due to the large number of concealed approaches and dead areas. Because of this more time may be required to organize combat than under flatland conditions.

In the process of setting up the defenses particular attention is given to creating the fire system which would ensure a rapid concentration of fire by all weapons on any jeopardized sector or area. For this purpose the weapons are concealed and dispersed in order from the backsides of the slopes to be able to hit the enemy with high density flank, cross and concentrated fire at the approaches to the forward edge and primarily on the boundaries, flanks and intervals between strongpoints. As the field manual emphasizes, roads, exits from gorges and defiles and convenient crossings over rivers and canons are most closely covered by all types of fire.<sup>7</sup>

Along with the extensive use of flank fire, one must also not neglect frontal fire combined with flank as well as high trajectory fire by mortars and artillery. The creation of multitiered fire of high density on the approaches to elevations in valleys also creates great advantages for the defending troops. The experience of exercises shows that company personnel in defending an elevation is capable of defeating an enemy from two or three tiers and a platoon from one or two. Here the basic portion of the weapons is concentrated in the first [tier].<sup>8</sup>

The motorized rifle (tank) subunits in exercises are concerned with defending the most important sectors exposed to tanks (in valleys and on mountain plateaus). The width of the defensive front of the subunits, depending upon the importance of the sector, may vary. It is significantly broader for a battalion than on a plain, particularly in impassable mountain-wooded terrain, where defenses are usually organized as separate platoon strongpoints with large intervals between them.

The battle formation of a battalion, as a rule, is drawn up in a single echelon with the assigning of a reserve, however the variations can be the most diverse. Thus, in defending a narrow valley, one of the companies is echeloned back in order to form a killing ground. In a wider valley or on a mountain plateau, most often all three companies of a battalion are positioned in a line.

The engineer equipping of mountain terrain on the defensive is carried out considering its particular features. In creating strongpoints, trees are felled, areas of terrains (paths) and man-made works are prepared for destruction and mixed mine-fields are set out.<sup>9</sup> Caves and other natural shelters are adapted for protection against weapons of mass destruction. Explosives are widely used for carrying out engineer work.<sup>10</sup> Foxholes and emergency positions are prepared for ensuring all-round defenses on the slopes of elevations in such a manner so as to be able to fire toward the flanks and rear.

The success of combat depends largely upon the able and correct use of the features of the mountain-wooded terrain. In the course of conducting the defenses, combat can have a focal nature using the maneuvering of fire and the subunits as well as with their shifting from one type of combat to another.

Thus, in the course of one of the tactical exercises, the commander of the motorized rifle company, Capt N. S. Skromnyuk, was ordered to dig in on a designated line and go over to the defensive for repelling an offensive by superior "enemy" forces. Having carefully studied the terrain, he took the decision in positioning the company to focus basic efforts on holding two elevations which straddled the road. For these purposes the commander moved the motorized rifle platoon of Lt S. I. Litvinov forward. The impassable terrain did not allow the advancing "enemy" to skirt the strongpoint. In the course of the battle Capt Skromnyuk intentionally pulled back the platoon of Lt Litvinov into the positions of the company strongpoint. The advancing side decided that it had been successful but fell into the killing ground of the defending troops and was "destroyed."

Practice has shown that the destruction of an advancing enemy starts even at the distant approaches. For this the senior chief makes nuclear and fire strikes against the enemy troops crossing the passes and against its groupings which are concentrated in the valleys and gorges. In using the sparseness of the existing roads and the low capacity of the accessible sectors, the defending subunits by creating obstacles and destruction ahead of time block off the valleys and roads, thereby forcing the advancing troops to operate under disadvantageous conditions and on inaccessible terrain where its ability to maneuver is sharply limited.

As the enemy draws closer to the forward edge, evermore resources are committed to battle. The battle outposts, in using advantageous terrain lines and obstacles, force the enemy to deploy prematurely, they wear it down by fire and do not allow it to reach the forward edge.

The attack is repelled by all weapons. The enemy tanks are destroyed most effectively when they are crossing grades. The defending subunits in cooperation with the adjacent units hit the retreating enemy with concentrated fire in widely using man-made slides and destruction.<sup>11</sup>

If the enemy drives into the defenses, the battalion (company) stubbornly holds the occupied positions even with complete encirclement and causes as much harm as possible, and in the event of necessity counterattacks. A particular feature is that a counterattack in the mountains can be carried out even with small forces. The greatest success is achieved by counterattacks conducted down a slope or along the ridge of an elevation in the flank and rear of the advancing enemy.

With the onset of darkness, the advancing side ordinarily continues active operations. In using natural features, it endeavors to carry out a concealed maneuver for the purpose of reaching the flank and rear of the defending enemy. For this reason for illuminating the terrain it is essential to allocate more resources than usual. It is significantly more complicated to conduct nighttime counterattacks than at day but on the other hand they are more effective. If during the night the enemy succeeds in seizing a strongpoint or an elevation, then every measure must be taken to restore the defenses before dawn breaks and the enemy has succeeded in digging in.

Thus, the examined features of organizing and conducting combat in mountain-wooded terrain indicate that under these conditions it is possible to successfully use both motorized rifle and tank subunits. The motorized rifle subunits are the most adaptable for operating on mountain-wooded terrain and helicopters are also effectively used as not only a means of fire support but also for transporting troops and weapons for conducting high-speed operations. The experience of postwar exercises shows that the basic trends in the actions of subunits in mountain-forested terrain are the following:

- 1) In creating a grouping for conducting offensive combat, primary significance is to be given to the most acceptable initial configuration of the subunit battle orders and the outflanking detachments have begun to be more widely used than in the years of the past war;
- 2) In organizing cooperation, particular emphasis is to be put on coordinating the efforts of the subunits fighting on the front with those of the outflanking detachments and the tactical airborne landing forces, particularly in capturing key objectives in the enemy defenses;
- 3) For achieving a high momentum of advance, offensive combat in the postwar years has been conducted with greater decisiveness and maneuverability and with maximum use of the results of nuclear weapons and the actions of outflanking detachments and tactical airborne landing forces;
- 4) In organizing defenses close attention is to be paid in creating an effective fire system which would ensure a rapid concentration of all types of fire on the necessary sector and significant space has been assigned to ensuring the viability of defenses;
- 5) In the course of conducting defensive combat, great significance is given to the operations of subunits assigned as battle outposts and they should not only give warning of an enemy offensive but also cause it maximum harm on the approaches to the defensive positions of the main forces.

In conclusion, it is essential to point out that combat operations in mountain-wooded terrain entail great physical and moral stress on all the personnel and demand able and careful organization, the correct use of its terrain and cover and the prompt use of effective firing for effect.

In this regard it is essential: in conducting training fire from firearms, tanks, infantry combat vehicles and other types of weapons to teach the personnel to hit the targets with direct laying and maximum angles of elevation (depression) and great angles of sight; more attention is to be given to the mountain training of subunits for their independent operations in outflanking detachments away from the main forces; the personnel is to be trained in the skillful use of regulation weapons and equipment using mountain gear and special devices for actions in mountain-wooded terrain. Well organized reconnaissance, flexible and stable control of the subordinate subunits and their fire, high teamwork and initiative by the commanders and staffs are important components for successful operations. Thus, the particular features of conducting combat under the conditions of mountain-forested terrain must be studied even more profoundly.

FOOTNOTES

1. "Taktika v Boyevykh Primerakh. Diviziya" [Tactics in Combat Examples. The Division], Voyenizdat, 1976, p 127.
2. Ibid.
3. I. N. Vorob'yev et al., "Boyevyye Deystviya v Osobykh Usloviyakh" [Combat Operations under Special Conditions], Voyenizdat, 1967, p 66.
4. "Boyevoy Ustav Sukhoputnykh Voysk" [Field Manual of the Ground Forces], Voyenizdat, 1964, articles 145-147.
5. Ibid.
6. Ibid.
7. Ibid., article 212.
8. I. N. Vorob'yev et al., "Boyevyye Deystviya v Osobykh Usloviyakh," p 143.
9. "Boyevoy Ustav Sukhoputnykh Voysk," article 213.
10. "Boyevoy Ustav Pekhoty Sovetskoy Armii" [Field Manual of the Soviet Army Infantry], 1959, article 260.
11. "Boyevoy Ustav Sukhoputnykh Voysk," article 214.

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## WARTIME ACTIVITIES OF MARSHAL VOROSHILOV

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 2, Feb 81 (signed to press 23 Jan 81) pp 50-56

[Article (book excerpt) by Maj Gen M. Petrov: "Headquarters (Stavka) Representative (on the 100th Birthday of Mar SU K. Ye. Voroshilov)"\*]

[Excerpt] December 1942. A difficult and unforgettable time. Under the leadership of the Communist Party the Soviet people and their army were achieving ever-new successes in the war against Nazi Germany. At Stalingrad our troops had seized the strategic initiative from the hands of the enemy. The breaking of the Leningrad blockade was drawing near.

At that time I was continuing to work on the staff of Mar SU K. Ye. Voroshilov. Of course, the plans of Headquarters for completely understandable reasons were not known to either me nor my comrades. But from individual signs we could guess that the city on the Neva would soon be given decisive aid. Thus, once our office received an urgent document from the main artillery directorate for Kliment Yefremovich [Voroshilov]. It dealt with the increased delivery of ammunition to the Leningrad and Volkov fronts. The marshal immediately requested various information and operations maps with the situation on them. From all of this his assistants, Cols L. A. Shcherbakov and L. M. Kitayev, concluded that in the near future trips to the north could be expected. And this was the case.

On 15 December, the representative of Headquarters, Mar SU K. Ye. Voroshilov, with a group of generals and officers left on a special train for Leningrad.

Two days later we arrived at Nebolchi Station. K. Ye. Voroshilov was greeted by the commander of the Volkov Front Arm Gen K. A. Meretskov, and the member of the front military council, Lt Gen L. Z. Mekhlis. And later at Voybokalo Station, along with them the representative of Headquarters was met by the chief of staff, Lt Gen M. N. Sharokhin. The commander reported on the course of preparing the troops for

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\*Voyenizdat, is preparing to publish the book by Maj Gen M. I. Petrov "V Dni Voyny i Mira" [In Days of War and Peace]. In it the author describes his joint work with prominent Soviet military leaders, including Mar SU K. Ye. Voroshilov. An excerpt from the book is offered here to the readers.

the operation. Kliment Yefremovich acquainted the command with the dates for the delivery of ammunition. However, as it turned out, they did not satisfy the troops. For this reason on the same day a request was sent to Moscow to deliver the planned ammunition no later than 1 January 1943.

The plan of the operation to break through the blockade was given the code name "Iskra" [Spark]. The plan provided "by joint efforts of the Volkov and Leningrad fronts to defeat the enemy grouping in the area of Lipka--Gaytolovo--Moskovskaya Dubrovka--Shlissel'burg and, thus, break the seige of Leningrad...."<sup>1</sup>

Headquarters entrusted the coordinating of operations by the fronts and the Red Banner Baltic Fleet to its representatives K. Ye. Voroshilov and G. K. Zhukov.

During the first 5 days of his stay on the Volkov Front, K. Ye. Voroshilov spent virtually all the time in the Second Assault Army of Lt Gen V. Z. Romanovskiy which was preparing to make the main thrust. He could be seen at one moment in one division and then another. The marshal spent less time at the staffs feeling that he would obtain more complete information in the units and formations about their combat readiness.

On 19 December, we accompanied K. Ye. Voroshilov to a battalion tactical exercise with field firing. This was conducted in the 376th Rifle Division of Col G. P. Isaakov. The situation was as close as possible to those combat operations which the formation was to carry out. Gens K. A. Meretskov and V. Z. Romanovskiy, the division commanders and other officers were present at the marshal's arrival. As a whole the exercise went well. Having noted the positive aspects, K. Ye. Voroshilov at the same time pointed to shortcomings in the actions of the subunits and in particular to the slowness in movement and the imprecise coordination between the rifle troops, tank troops and artillery troops. These shortcomings were eliminated in a repeat exercise.

It must be said that the marshal, absorbed by the preparation of the troops for the operation, did not forget his assistants. He also prepared us for the coming intense work under a combat situation.

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<sup>1</sup>GA MO RSFSR [Central Archives of the USSR Ministry of Defense], folio 217, inv. 31174, file 8, sheet 36.

## DEVELOPMENT OF STRATEGIC NUCLEAR MISSILES IN U.S.

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 2, Feb 81 (signed to press 23 Jan 81) pp 66-71

[Article "based on foreign press materials" by Prof and Candidate of Technical Sciences, Engr-Col (Res) M. Arkhipov: "The Development of Strategic Nuclear Weapons by the U.S. after World War II"]

[Text] Immediately after World War II, the United States set itself the goal of destroying the USSR and the People's Democracies and winning world superiority. The use of the atomic bomb (atomic attacks against the Japanese cities of Hiroshima and Nagasaki in August 1945) for the United States was a prelude to the "Cold War" which American imperialism even then was commencing against the USSR. The American leadership felt that it possessed the "absolute weapon" and could impose its will on the entire world.

The U.S. military-political leadership envisaged the start of a war against the USSR and the other socialist countries by unilateral surprise nuclear strikes when U.S. territory would be beyond the reach of retaliation. Here the main strike force of the United States was its strategic aviation (in the middle of the 1950's, the U.S. Air Force had around 1,300 medium and heavy bombers).<sup>1</sup> The enormous successes of the USSR in the area of the economy, science and technology and most importantly in developing nuclear weapons and missile building overturned all the plans and hopes of the U.S. military-political leadership. The unleashing of a nuclear war under these conditions involved the threat of destroying the aggressor itself, regardless of the advantageous geographic position of the United States. For this reason, the strategy of "massive nuclear retaliation" which existed at that time and was flawed at its very basis was not fated to be carried out. Nevertheless the Pentagon strategists continued to make greater efforts in the search for new strategic means to deliver nuclear charges to the targets, clearly understanding by this primary objectives located on the territory of the USSR and the other nations of the socialist commonwealth. In their opinion, strategic aviation was unable to fully carry out the tasks placed on it. Without mid-air fueling or fueling at intermediate air-fields the airplanes were unable to deliver nuclear bombs over long distances. Moreover, the aircraft, in having a significant flight time, could not ensure a surprise nuclear strike and were very vulnerable to modern air defense weapons.

Because of this a search was started for new strategic means of delivering nuclear charges to the target. The choice fell on missiles which, in comparison with

strategic bombers, have a higher speed, a lower vulnerability, a high combat readiness, reliability and precision in hitting the targets. The combining of the missile with the nuclear charge led to the appearance of a new type of weapon, a nuclear missile weapon. The United States immediately began to develop missiles for aggressive purposes. In 1955, the U.S. Air Force Command commenced work on developing a series of strategic missiles: the Thor and Jupiter medium-range ballistic missiles (MRBM) and the Atlas and Titan intercontinental ballistic missiles (ICBM). Their development was carried out by private firms under contracts with the Air Force Research and Development Command.

The Thor MRBM was commissioned in 1958. In the same year Great Britain agreed to set up on its territory four Thor missile bases and to man them. In 1960, 15 missiles were deployed at each base. The Thor MRBM had a single-stage liquid propellant rocket engine (LPRE) operating on liquid oxygen and kerosene as well as an inertial guidance system, a nuclear warhead of 200-kiloton capacity and a range of around 2,800 km. The Thor MRBM was the first NATO ballistic missile aimed at the Soviet Union. The low combat readiness, the high vulnerability of the ground launchers as well as protests by the English public forced the British military-political leadership to remove the Thor missiles in 1963.<sup>2</sup>

The Jupiter MRBM was developed under the leadership of the well-known Nazi missile designer, von Braun. This missile was to be deployed in Northern Italy and Turkey. For this reason, in 1958, three squadrons of Jupiter missiles were organized at the Redstone Arsenal (Alabama) for training the Italian and Turkish crews. The missile was a single-stage LPRE, with an inertial guidance system, a megaton nuclear warhead and a range of 2,400 km. In 1961-1962, two squadrons of the Jupiter MRBM (15 launchers in each) were received by the Italian Air Force and in 1962 one by the Turkish Air Force.<sup>3</sup> In 1963, the Jupiter MRBM for the same reasons as the Thor missile was decommissioned.

The Atlas ICBM had a LPRE consisting of a main (propulsion) and two launch boosters. Two vernier engines were used for controlling the flight. After the propulsion engine had shut down, it was separated from the warhead by small retroengines. There were six modifications of the Atlas ICBM: A, B, C, D, E and F.

The first combat version of the missile was the Atlas D, subunits of which were organized in 1958, although the ICBM itself was commissioned in 1959. It had a radio inertial guidance system, a nuclear warhead of 1 megaton and a range up to 10,000 km. In 1960, the Atlas E was commissioned with an improved inertial guidance system and a more powerful LPRE, and in 1962, the Atlas F. The Atlas E and Atlas F ICBM had the same warhead power and range as the Atlas D.<sup>4</sup>

In 1962, 13 squadrons of the Atlas ICBM were organized in the SAC [Strategic Air Command] of the U.S. Air Force, including: 4 of Atlas D, 3 of Atlas E and 6 of Atlas F. The total number of launchers stationed in the continental United States reached 132. There were three types of launching positions of the Atlas missiles: the exposed (Atlas D), semicovered (Atlas E) and underground (Atlas F). The poor combat readiness and protection of the launching positions as well as the high cost of operating the Atlas ICBM predetermined their fate. They were decommissioned in 1965.

The Titan ICBM was developed by the Martin firm. The first version of the Titan 1 missile had a two-stage LPRE, a radio inertial guidance system, a nuclear warhead of 1 megaton and a range of 10,000 km. The first combat subunits of the Titan 1 ICBM were organized in 1960 and in 1961 the missile was commissioned.

Six squadrons of Titan 1 missiles with nine launchers in each squadron were organized in SAC of the U.S. Air Force. The Titan 1 missile was located in underground silos. Before launching it was raised to the surface and fueled and this required a great deal of time. Because of this as well as due to a number of other shortcomings the Titan 1 was decommissioned in 1965.<sup>5</sup>

In 1962, another version of this missile, the Titan 2 was adopted<sup>6</sup> and in comparison with Titan 1 this had the same range but a more powerful warhead, 9 megatons. The two-stage LPRE used a long-storable fuel (nitrogen tetroxide and unsymmetrical dimethylhydrazine). The Titan 2 ICBM was deployed in underground silos from which they could be launched directly. Six squadrons of these missiles with nine launchers in each were organized as part of the SAC of the U.S. Air Force. This number of Titan 2 subunits has been maintained up to the present. Two Titan 2 squadrons comprise a missile wing. Thus, in the United States there are three missile wings of Titan 2 ICBM with 18 launchers in each wing. Each wing is located at a separate missile base. The basic shortcomings of this missile are the high operating expenses and the insufficient protection of the underground silos as well as the danger of handling the oxidant. However, from material in the foreign press, due to the great power of the nuclear charge, the Titan 2 ICBM will remain in service until approximately the middle of the 1980's. The modernization program envisages an improving of the ground equipment, the replacing of obsolete assemblies of the control system and a rise in the strike accuracy.

All the designated strategic missiles had liquid propellant rocket engines which complicated their operation and increased costs. For this reason at the end of the 1950's the United States began developing a solid fuel ICBM, the Minuteman (there are several modifications of it). Thus, the Minuteman 1 which was commissioned in 1962 had a three-stage solid fuel rocket engine, an inertial guidance system, a nuclear warhead with a power of 0.6 megaton and a range up to 10,000 km. The missile was located in an underground silo and launched from it.<sup>7</sup>

In 1965, the Minuteman 2 was commissioned with a more powerful engine than the Minuteman 1. This made it possible to increase the range up to 11,000 km and with a higher strike accuracy.

Moreover, the nuclear warhead of the Minuteman 2 ICBM was more powerful (1.0 megaton) than its predecessor and had equipment for overcoming enemy antimissile defenses. The replacing of the Minuteman 1 missiles by the Minuteman 2 started and this ended in 1975. As is known, the SAC of the U.S. Air Force is armed with the Minuteman 2 ICBM and SAC presently possesses 450 underground launchers.

According to information in the foreign press, the Minuteman 2 modernization plans envisage the replacing of the obsolete assemblies of the guidance system, a rise in launcher protection against the shock wave from 21 to 60 kg per  $\text{cm}^2$  and the equipping of the launcher with a radio system which launches the missile from an airborne command post. The last, most advanced modification of the Minuteman type of missiles

is the Minuteman 3 ICBM which was commissioned in 1970. Its range is up to 13,000 km, and its warhead consists of three separating individually targeted warheads (the MIRV type) with a power of 0.2 megaton each and each can hit a separate target. The warhead is also equipped with devices for suppressing antimissile defenses (dipoles and dummy targets). The SAC of the U.S. Air Force has 550 Minuteman 3 launchers.<sup>8</sup> For the purposes of increasing the combat capabilities and survival under conditions of a nuclear missile war, the United States has improved the Minuteman 3 ICBM. It has developed a new multiple warhead of the MIRV type with three warheads of 0.4 megaton each; the strike accuracy has been approximately doubled; a system of remote retargeting of the missiles from the launch control post has been developed and this makes it possible to retarget the missile in 36 minutes instead of 24 hours. The protection of the underground launchers and launch control posts has been increased against a shock wave from 21 to 60 kg per  $\text{cm}^2$ ; the launchers have been equipped with a radio system making it possible to launch from an airborne command post.

The Minuteman 2 and Minuteman 3 ICBMs have been organized in detachments (ten launchers with one launch control post), into squadrons (of five detachments), and wings (of three-four squadrons). In the United States there are six missile wings of Minuteman ICBMs and each of them is located at a separate missile base. According to information in the foreign press, around 95 percent of the land-based Titan 2 (54 launchers), Minuteman 2 (450 launchers) and Minuteman 3 (550 launchers) ICBMs are constantly ready for launch in 1 or 2 minutes.<sup>9</sup>

The development of the mobile MX ICBM is the future U.S. ICBM. As the foreign press has announced, the development of this missile should significantly increase the combat capabilities of the U.S. strategic offensive forces and their survival under the conditions of a nuclear missile war. The MX ICBM will carry a multiple warhead of the MIRV type with ten warheads of 0.3 megaton each and of increased accuracy. It can also have a multiple warhead of the MARV type with warheads of 0.3 megaton each and capable of maneuvering in the final leg of the flight. For the purpose of increasing the survival of the MX ICBM, its launchers are to be made mobile. According to the Pentagon plans 250-300 launchers of the MX ICBM are to be developed starting in the second half of the 1980's.<sup>10</sup> At present, the United States is conducting research on the versions of the mobile-based MX ICBM.

Above we have briefly described the land-based nuclear missiles. Almost simultaneously with them, upon a contract with the U.S. Navy, in 1957 Lockheed began developing medium-range strategic ballistic missiles of the Polaris type for nuclear-powered missile submarines. Several modifications of the Polaris MRBM have been developed including the Polaris A1, Polaris A2 and Polaris A3.

All the missile modifications have a two-stage solid fuel jet engine and an inertial guidance system. Each nuclear submarine carries 16 launchers in which the missiles are held vertically. Launching is carried out with the submarines submerged to a depth of 30 m. The missile is ejected by compressed air (the Polaris A2 and Polaris A3 by a steam-gas mixture). After the missile leaves the submarine the jet engine is fired.

The Polaris A1 MRBM was the first modification of the missile which in 1960 was commissioned for five nuclear submarines of the "George Washington" class. It had a nuclear warhead with a power of 0.6 megaton. Its range was 2,200 km.<sup>11</sup>

The Polaris A2 MRBM was the second modification of the missile commissioned in 1962 for five nuclear submarines of the "Ethan Allen" class. It had a more powerful engine and this made it possible to increase the power of the warhead nuclear charge up to 0.9 megaton and the range up to 2,800 km.<sup>12</sup>

The Polaris A3 MRBM was the last, more advanced modification of the Polaris class missile commissioned in 1964. It uses a higher caloric solid fuel. Due to the use of fiberglass, the weight of the missile has been reduced and this has made it possible to increase the range up to 4,600 km. The missile is equipped with a more advanced guidance system than the Polaris A2 missile. This made it possible to raise the reliability of its operation and ensure a more accurate strike. In contrast to the former missiles, the Polaris A3 missile uses a scattering type multiple warhead (of the MIRV type) carrying three warheads with a power of 0.2 megaton each and these can be dropped on the same target. In the opinion of U.S. military specialists, the equipping of the Polaris A3 missile with such a warhead has increased the effectiveness of its strikes against areal targets, and particularly against cities.

The new Poseidon C3 MRBM will also help to increase the combat capabilities of the U.S. Navy nuclear subs. The beginning of development on this missile goes back to 1965. This missile has a two-stage solid fuel engine and an inertial guidance system. The Poseidon C3 missile carries a multiple warhead of the MIRV type with ten warheads of 0.04 megaton each. It can hit ten separate targets. The range of the missile is 4,600 km. The large supply of solid fuel makes it possible to deliver the heavier warhead of the Poseidon C3 missile over the same range as the Polaris A3 missile. Its launch weight is approximately double the launch weight of the Polaris A3 missile.<sup>13</sup>

In 1970, the Poseidon C3 missile was commissioned on the U.S. Navy nuclear submarines, and in 1977, 31 subs (with 496 launchers) were armed with these missiles; the remaining ten subs (160 launchers) carried Polaris A3 missiles. The U.S. Navy is presently armed with this number of nuclear submarines and missiles. The foreign press has pointed out that the 41 nuclear submarines of the U.S. Navy presently are carrying a total of over 5,000 nuclear warheads.<sup>14</sup>

The military-political leadership of the United States has devoted great attention to further increasing the combat capabilities and survival of the Navy nuclear submarines. For this purpose, the U.S. Navy is carrying out the Trident Program which envisages the development of strategic Trident 1 and Trident 2 ICBMs and new nuclear submarines of the "Ohio" class with 24 launchers.

The Trident 1 missile was commissioned in 1979. It has a multiple warhead of the MIRV type with eight warheads of 0.1 megaton each. Its range is up to 8,000 km and this is achieved by employing a three-stage solid-fuel engine. The missile's guidance system is stellar monitored inertial. The 12 existing nuclear submarines of the "Lafayette" class are to be rearmed with the Trident 1 missile and the new nuclear submarines of the "Ohio" class will also carry them.

The construction of the Trident 2 missile is a continuation of the Trident Program and this missile should have a range up to 11,000 km, greater precision than the Trident 1 and a more powerful warhead. According to the plans of the U.S. Navy this missile will be commissioned in the second half of the 1980's.

As the Pentagon strategists feel, the commissioning of the Trident 1 missiles and the Trident 2 in the future will make it possible to have combat patrolling by nuclear submarines in direct proximity to the U.S. coast, that is, in zones covered by antisub defenses. This should significantly increase their survival.

Over the 25 years since the appearance of the strategic nuclear missile weapons, there have been several generations of missiles. At present the United States is continuing to increase and improve the strategic offensive weapons. This is occurring in the following ways: the development of a more powerful nuclear warhead is being completed for the Minuteman 3 ICBM; a program has been started for developing the mobile MX ICBM; the nuclear submarines are being rearmed with the new Trident 1 missile; preparations have been started for commissioning a cruise missile with a range of up to 2,500 km. In parallel with this the United States is planning to create and deploy systems of medium-range nuclear missiles on the territory of England, the FRG, Italy and other NATO countries in the aim of attacking the USSR and the other socialist countries. The implementing of this U.S. plan will further strengthen the military danger in Europe.

The Soviet Union, loyal to its peace-loving policy, is making an enormous effort to restrict any weapons, including strategic ones, and to prevent a nuclear war.

The USSR, along with the fraternal socialist countries, is constantly working to strengthen international security and to abandon the creation of new types of weapons, in acting against an arms race. Thus, the leaders of the Warsaw Pact states at a meeting on 5 December 1980 again "emphasized that they are in favor of cooperation with all progressive, democratic and antiimperialist forces, for strengthening the solidarity of all peoples in the struggle against the threat of war, for a policy of peace and disarmament, and primarily for nuclear disarmament, for detente and equal cooperation."<sup>15</sup>

#### FOOTNOTES

1. "Development Strategic Air Command 1946-1976," USA, 1977, pp 47, 52.
2. Ibid., p 112.
3. Ibid., p 104.
4. Ibid., p 80.
5. Ibid., p 118.
6. ZARUBEZNOYE VOYENNOYE OBOZRENIYE, No 7, 1979, p 8.
7. "Jane's All the World's Aircraft 1962-1963," pp 390, 391.
8. ZARUBEZNOYE VOYENNOYE OBOZRENIYE, No 7, 1979, p 9.
9. Ibid., pp 8, 9.

10. Ibid., p 9.
11. "Jane's All the World's Aircraft 1962-1963," p 399.
12. Ibid., p 399.
13. "Jane's Weapon Systems," 1978, p 24.
14. ZARUBEZNOYE VOYENNOYE OBOZRENIYE, No 7, 1979, p 10.
15. PRAVDA, 6 December 1980.

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## REVIEW OF BOOK ON U.S. FOREIGN RELATIONS

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[Review by Yu. Kazakov of the book "SShA i Yevropa: Obshchiye Problemy Amerikanskoy Kontinental'noy Politiki. Kriticheskiy Analiz Burzhuaznoy Istorioriografii SShA" (The United States and Europe: General Problems of American Continental Policy. A Critical Analysis of U.S. Bourgeois Historiography), by S. I. Appatov, Moscow, Mysl', 1979, 240 pages]

[Text] The reviewed book is a general survey of the complex problems of U.S. foreign policy in the postwar period and examined on a basis of Marxist-Leninist analysis of the concepts of American political science in the 1960's and 1970's. The monograph by S. I. Appatov is one of the last Soviet historiographical works devoted to the extremely important question of the American approach to the problems of Europe under those conditions where in the world there has been a difficult, at times inconsistent but still obvious turn from the "Cold War" and brinkmanship to a policy of detente.

From the positions of a party and class approach, S. I. Appatov has isolated three basic currents in American historiography on postwar international relations and foreign policy, conservative, liberal and radical (p 27).

In the conservative current, according to the classification given by the author, are the historians and political scientists of the extreme right (R. Straus-Hupe, Z. Brzezinski, M. Taylor and others) and moderately conservative views (R. Osgood, H. Morgenthau and others). Characteristic of the extreme right is outright anti-Sovietism and a desire to ignore the changes occurring in the world for the better. They openly or in a veiled manner preach the idea of "American supremacy" and often call for a measured use of U.S. military potential for the purpose of strengthening U.S. global and regional positions.

The moderate conservatives hold a more restrained position on these questions, A. S. Appatov points out. They are critical of American policy in the 1960's feeling that the new conditions in the world demand a partial revision of not only U.S. tactics but also strategy. In pointing to the necessity of a more effective adaptation of U.S. relations with the Western European countries to the new balance of forces of the "partners" in the economic, political and military areas, they are in favor of a certain modification of the NATO military-political structure and the observance

and development of its goals and principles. Detente, in their opinion, is impossible without preserving a significant tension in the relations of the capitalist and socialist countries in Europe, and consequently, without an impressive military, economic and political U.S. "presence" on the European continent (p 109).

The author correctly points out that the bourgeois liberal authors (F. Schuman, R. Steel and R. Tugwell) condemn U.S. Western European policy aimed at intensifying the confrontation with the socialist countries, feeling that this can lead to a nuclear conflict. But they criticize only the instrumentarium of U.S. Eastern European policy during the "Cold War" period, without doubting its basic aims. In rejecting the idea of "atomic blackmail" and "the diplomacy of military threats" against the socialist countries, they have put forward a "strategy of peaceful involvement" and a policy of "building bridges to Eastern Europe" and these are a covert version of anticommunism.

The historians and political scientists of the radical current (G. Alprowitz, S. Lance, G. Kolko and others) hold a more consistent position on these questions. They feel that the U.S. economic, military and political patronage of Western Europe has outlived itself and become burdensome. However, as S. I. Appatov points out, regardless of the seemingly serious criticism of official Washington by the representatives of the scholarly world, they still remain in the channel of bourgeois historiography and suffer from more or less "moderate" anti-Sovietism (p 33).

The reviewed work discloses the basic currents of American historiography and political science which have dealt with the foreign policy of Washington over the last two decades. Conservatism and anticommunism which are measured depending upon the specific international situation are inseparable attributes of U.S. foreign policy. The use of force (military, political or economic) in foreign policy is viewed in the United States as a necessary means for ensuring the global aspirations of American imperialism. This was particularly apparent during the years of the presidency of J. Carter, when in colliding with the reality of Soviet-American parity on the strategic level, the desire arose to achieve military superiority over the USSR, in abandoning detente and equal cooperation. As a result due to the fault of the United States American-Soviet relations have deteriorated and tension in the world has increased. In actually refusing constructive talks on limiting strategic weapons and reducing armed forces and weapons in Central Europe, Washington has consciously worsened the international situation. The adoption of the new U.S. nuclear strategy formulated in the notorious Presidential Directive No 59, the creation of the "Rapid Deployment Forces," the growing arms race, the outright intervention into the internal affairs of Iran and much else show a rebirth of the "Cold War" policy and an orientation on the use of military force.

In analyzing the state of U.S. relations with its partners in Europe at the end of the 1970's as well as the prospects for their subsequent development, it is essential to note the clear desire of Washington for the broader use of the military and economic potential of the Western European countries in its global aims. In speculating on the mythical "Soviet military threat," the American ruling circles are endeavoring to strengthen their influence in Western Europe, to activate NATO and turn it into an obedient weapon for realizing U.S. claims of world leadership. Although the allies of the United States hold a far from consistent position on the questions of military detente in Europe, one thing is indisputable. They do not

like such a hard course of their overseas partner which runs contrary to their national interests. This can be seen from the arguments of the FRG and a number of other states on the question of an annual 3-percent increase in the military budgets of the NATO countries adjusted for inflation as well as the decision of Belgium and the Netherlands to defer a review of the question concerning the deployment of medium-range nuclear missiles on their territories. Although Washington still has definite levers to put pressure on their partners in the aggressive bloc, the tendency for an independent policy by its participants will obviously remain in force.

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